Nurturing the Nation in a Colonial Era: The Rationalization of Breastfeeding in France, 1870-1930

Cherilyn Lacy

The rhetorical association of motherhood with moral and national renewal has been a persistent theme in French political discourse. From Rousseau's declamation against 'unnatural' women who abandoned their duties as mothers, to the natalist fervor of the early twentieth century, intellectuals and political leaders repeatedly made a charged association between motherhood and French national regeneration. The maternal body was idealized as the source of the civic virtues that were essential to the development of a vigorous, harmonious nation. As glorified by Rousseau, a mother's milk would impart not just nourishment but virtuous sentiments to the future citizen. It was through the lens of biological determinism that women's relation to the body politic was envisioned, although as the nineteenth century progressed, the nation itself was increasingly perceived in terms of biological metaphors. At the turn of the twentieth century, ideological tensions between monarchist, imperial, and republican visions of France remained unresolved, even after the recurrent revolutions and domestic experiments with different political regimes. If anything, the Dreyfus Affair (1894–1906) revealed the depth of those tensions and polarized French opinion between those who equated the French nation with a set of republican political principles and those who loudly proclaimed a patriotism in which blood and race increasingly took primacy of place. Spurred in part by a desire for military revenge after the humiliating defeat of the Franco-Prussian War (1870–1871), the rhetorical slippage between the French nation and the French race recontextualized women's reproductive capacity in terms of a Darwinian struggle for national and racial survival. A mother's role as a child's first educator in the virtues of republican citizenship was steadily eclipsed by her ability to produce numerous, healthy offspring.

The context of French national anxieties over racial survival included large scale and rapid colonial expansion which resulted in a colonial population vastly larger than in the métropole: the French Soudan and Cochin China in the 1860s, the incorporation of Algeria as virtually a “département de France” with the Third Republic in 1871, and the formal acquisition of nearly two dozen colonies in Africa (and Southeast Asia) after the Berlin Conference, 1884–85. Since one rationale for this territorial expansion, the creation of France d’outre-mer, was the “civilizing mission” which manifested an aggressive form of paternalism, it is understandable that an equally vigorous maternalism of the French nation found expression.

Amid the *Belle Epoque* anxieties about depopulation and the degeneration of the French race, it was not enough to produce a more numerous body of French citizens; the citizens' bodies had to meet expectations of size, weight, and vigor. The emphasis on tangible measurements of corporeal vitality mirrored the

obsession that physical anthropologists, most notably Paul Broca, placed on comparative cranial measurements in the establishment of a hierarchy of the human 'races'. Founder of the Anthropological Society of Paris in 1859, Broca was renowned for his insistence on precise, physical measurements that could be used to establish a comparative, hierarchical classification of races (Schneider 217). Although Stephen Jay Gould has since demonstrated that Broca's 'precise' measurements were based on a highly biased sampling method that started with the presupposition of European racial superiority, during the Third Republic these supposedly objective measurements nonetheless provided a 'scientific' rationale for France's imperial expansion which began in earnest under Jules Ferry's ministry in the 1880s. The Enlightenment faith in the essential equality of human gave way to a more rigid perception of races as immutable and ordered in a hierarchy from "savage" to "civilized". This placed an even greater burden for the regeneration of the nation on French mothers. Although the expansion of France's colonial empire brought greater populations into the French fold, as Elisa Camiscioli has so persuasively argued, the bodies of African and Asian colonial subjects were deemed racially immutable and thus unfit for the regeneration of France (Camiscioli 596). More than ever, motherhood was portrayed as "women's patriotism".

But what did being a mother entail? Secular republican and Catholic discourse each emphasized the link between motherhood and France's moral, social, and national renewal, but which aspect of motherhood was supposed to effect this profound regeneration? The details were not always spelled out: women's failure to fulfill their "maternal responsibilities" might have been a recurrent theme in natalist rhetoric, but the act of mothering itself remained vague and undefined. Odes to motherhood very often relied on a romanticized notion of the "eternal feminine" in which motherhood was simply a timeless, essential quality, a biological instinct that not only linked all women through the common denominator of their drive to nurture, but also linked women to the natural world. This is readily evident in the writings of Emile Zola, the celebrated novelist of the Third Republic whose Rougon-Macquart series involved a sustained consideration of the interaction of heredity and social forces in the tragic production of degeneration. Zola concluded his 1899 novel, *Fécondité* (Fecundity), with a convivial feast in honor of Mathieu and Marianne, patriarch and matriarch of a highly prolific family. Zola described the aged, matronly Marianne, surrounded by her numerous children and grandchildren, as a "fecund Cybele", likening her to the Roman fertility goddess but also rendering her a female counterpart to the Titan Atlas. Whereas Atlas bore the vault of the sky on his shoulders, Marianne's womb had carried a world. Marianne, herself a symbol of the French nation, was also metaphorically linked to the idealized, fertile earth by the arrival of an unknown descendant, Dominique, who had traveled from his home in Africa to pay homage to his magnificent lineage. His description of French territory in the Soudan as "the

other France", where his own, numerous children were proliferating in the fertile soil of the tropics, was a paradise for the natalist imagination (Zola 487-496). The true measure of Marianne's success, like that of France, was thus measured in her ability to people the earth, and to send forth sons who would draw the fertile, tropical regions of the world into the French family.

Yet in reality, children do not spring forth from the earth like lilies of the field, and amid the depopulationist anxieties of the *Belle Epoque,* physicians readily criticized women for demonstrating ignorance of the proper methods of childrearing. Working-class mothers were a particular focus of concern. Not only did they spend the better part of their day in paid employment (often outside the home), which thus distracted them from their "natural", maternal duties, but their absence was allegedly responsible for hindering the transmission of knowledge about childrearing from mother to daughter, resulting in generations of young mothers whom the physicians claimed were wholly ignorant of the most basic tasks involved in caring for a baby. Joshua Cole has argued persuasively that focusing attention on women's abdication of their "natural" function as mothers enabled physicians to legitimate political and medical intervention in the private sphere of family life without having to address the vexed debate over women's participation in the workforce outside the home (Cole 149-179). Women's work could be discussed in terms of a biologically predetermined role without taking into account the messy details of the tasks that occupied a woman's working day. To some degree, the lack of specific attention to the work of mothering may simply reflect the pervasive devaluation of women's work in general. According to much natalist rhetoric, motherhood was merely the expression of a biological imperative, an act of nature. Therefore, there was no need to articulate a public debate about the actual labor involved and how it was organized.

Since the publication of Rousseau's *Emile,* one aspect of maternity had been singled out as particularly important. This was a woman's willingness to nurse her own children. For Rousseau, the act of breastfeeding mattered not so much as a means to nourish a child physically, but for the moral sentiments Rousseau supposed this intimate act would cultivate. A mother who nursed her own children inspired virtue in future citizens (Rousseau 45-46). Likewise, natalist organizations such as Alexandre Mayer's *Société protectrice de l'enfance,* founded in 1868, included among their expressed objectives the promotion of maternal breastfeeding. Although there was a more quantitative, empirical emphasis to the nineteenth-century natalist discourse on motherhood than in Rousseau's treatise, the natalist portrayal of breastfeeding typically echoed Rousseau's sentimentalism and emphasized the importance of the moral and emotional education a child gained through the intimate contact with its mother.

The sentimentalized image of breastfeeding gave way to the medical discipline of *puériculture* (the science of raising children), which was first articulated in 1865 by the French physician Alfred Caron (Schneider 63). The shift

in tone from breastfeeding as a demonstration of maternal tenderness or the expression of women's "natural" tendencies to nurture, toward a rationalized regimen tailored to infant physiology and based on precise measurements is unmistakable. In an 1866 edition of his manual of "scientific childcare", *La Puériculture,* Caron insisted that young mothers must be taught "to regulate mathematically (as much as possible) the proportion and frequence of feedings (Caron 195)." Caron justified his assertions in the time-honored fashion of physicians by appealing to superior knowledge of the body. In the prevailing rhetoric of biological destiny, nature imposed on women a duty to give birth and nurse their own young, but at mid-century some physicians began to argue that women's ignorance of basic human physiology rendered them incompetent to fulfill this duty without the guidance of the "man of science", the physician. Caron's medical training gave him access to research on the capacity of an infant's stomach, which he described as able to accommodate forty to fifty grams at most, and which served as his rationale for subjecting the act of breastfeeding to precise, mathematical calculation. The view that nature and natural phenomena should be subjected to man's discipline could be traced back to Francis Bacon's description of science as coercing nature's secrets from "her". However, as Europe entered an era of industrialization, the extraction of raw materials for productive purposes (particularly as defined by European standards) became the justification for European domination of territories and populations in Asia, Africa, and the Pacific. Naturalists like Julien Virey, whose 1826 *Natural History of the Human Races* appeared just three years before France's seizure of Algeria and over three decades before Darwin's *Origin of Species,* set the stage for imperialist explansion with arguments that European mastery over the forces of nature would naturally lead to European dominance over other "races" (Adas 213). However, to seize and maintain control of overseas territories, France would need a vigorous population to supply its armies and colonial administration. Thus, the ability to dominate nature and the expansion of France's overseas territorial control was intimately linked to the ability to harness French women's reproductive powers.

The natalist obsession with demographic decline after the Franco-Prussian War shifted attention to a mother's ability to render her children strong in body as well as in virtue. Maternal nurturing, as one element of idealized domesticity, became the focus of a very compelling, pervasive, and highly medicalized discourse about national and social renewal in the closing decades of the nineteenth century. This discourse, which centered on the concept of "regeneration", was appropriated simultaneously by many people -- physicians, sociologists and social philosophers, proponents of social and moral reform, politicians and administrators -- who employed medical and biological metaphors to explain France's perceived social crises such as militant labor unrest (not to mention demands for women's suffrage) and apparent decline with respect to rival nations, something Robert Nye has termed the "medical concept of national

decline". Within the terms of this discourse, France was portrayed as an organic entity rather than a geographical territory or political union, and the basic unit of French society was the family rather than the individual. For doctors and hygienists, the rhetoric of degeneration and depopulation served to consolidate their own authority over all matters pertaining to health, and stimulated the publication of numerous treatises, aimed at women readers, that prescribed a scientific approach to family health care and urged mothers to defer to the physician's expertise. Demographic anxieties served as the basis for appeals to women to abandon their "egoistic" pursuit of careers and self-fulfillment, and consecrate themselves to their "natural" maternal duties. In this context, woman's ability to care for her family's health needs ceased to be a private matter and was assigned considerable influence over the future welfare of France.

Although Caron was the first to introduce the term *puériculture* and propose that mothers regulate feedings strictly rather than nursing an infant any time it cried, it was in the period of heightened obsession with demographic decline following the Franco-Prussian War that physicians began articulating a more systematic, regimented approach to breastfeeding. The transition was gradual. In his 1866 treatise, Caron did not establish a specific schedule for feedings; he merely argued that mothers should exercise greater discipline in keeping babies on a schedule. Well into the 1880s, physicians couched their advocacy of breastfeeding in language that recalled the heritage of Western civilization rather than focusing on clinical studies of infant physiology and digestion. For example, Dr. Casimir Degoix's 1887 *Allaitement. Mères et nourrices* evoked images of motherhood as exalted by the ancient Greeks and Romans and called upon his female contemporaries to nurse their own children, but otherwise the text said little about the practice of breastfeeding itself (Degoix 5-7). There was no mention of using a scale to measure an infant's nutritional intake. However, by 1892 Dr. Pierre Budin, another early contributer to the field of *puériculture,* had mapped out a more exact schedule which he advised mothers to follow. In a conference presented to the French Federation of Socialist Workers on April 22, 1892, which was subsequently published under the title *Hygiène de l'enfance,* Budin argued that as early as two days after birth, mothers should keep feedings to every two hours, to be revised to every three hours once an infant was six months old. Budin included graphs of the 'average' weight progression for infants within the first year of life, reinforcing the idea that development could be measured in precise, regular increments despite his acknowledgments that not all babies grew at the same rate. In order for mothers to monitor their infant's growth and make comparisons against the norm, he advocated the use of a scale. However, he allowed for weekly weighings rather than insisting on a daily schedule. Recognizing also that not every woman owned a scale, Budin suggested that women who needed to might borrow one or even take their child down to a local shopkeeper to be weighed in a commercial scale (Budin 6-8). Thus, while his emphasis on a regimented feeding

schedule and periodic weighings reflected a departure from the view of breastfeeding as a personal act that followed natural, irregular rhythms, Budin remained pragmatic about the variations in women's experiences, especially when it came to the likelihood that a mother would own specialized equipment such as a scale.

Dr. Antoine Bernard Marfan, physician at the Hôpital des Enfants Malades from 1901 to 1920, was acknowledged by proponents of scientific childrearing (or *puériculture)* as the first to introduce the study of maternal breastfeeding, particularly the nutritional composition of mothers' milk and its influence on an infant's physiological development, to the field of pediatric medicine (Congrès International pour la Protection de l'Enfance 177-178). Marfan's *Traité de l'Allaitement et de l'Alimentation des Enfants du Premier Age,* which was first published in 1899 and went through four editions by 1930, established a meticulous set of guidelines for nursing that would later be reproduced in numerous child-care manuals. The legacy of Marfan's efforts to promote a more rational, systematic approach to breastfeeding can readily be discerned in a survey of *puériculture* manuals published between 1918 and 1932. A brief comparison of some of these manuals reveals a pattern in which mothers are advised to restrict an infant's feeding to regularly scheduled times of day spaced apart by exact intervals, to limit each feeding to a precise span of minutes, to weigh an infant before and after a feeding to measure the volume of milk consumed, and to chart their child's growth with respect to statistical averages and adjust feedings based on the correspondence between the two.

Far from a poignant moment of bonding between mother and child, the procedures that many child-care manuals prescribed for feeding more closely resembled the strict, ordered schedule of a hospital or instructions to nurses on taking a patient's vital statistics. If we begin with the time-table advised for infant feeding, the physicians who authored child-care manuals concurred in their view that mothers should not feed an infant whenever it cried, but instead make the child conform to a prescribed schedule. In the words of Dr. Adolphe Pinard, chair of clinical obstetrics since 1889 at the Paris Medical School and author of numerous treatises on *puériculture,* "the education of children should begin at birth (Pinard, *L'Enfant,* 84)". What infants should learn from their disciplined feeding schedule, even before their minds could process the simple lessons taught in primary school, was that society operated on a schedule, and that it was the individual who conformed to the schedule, not vice versa. This reflected the realities of adult life in a continually industrializing France, where the workday was increasingly structured by the factory whistle or the clock and railroads increasingly imposed a fixed schedule on travel. Pinard made the comparison between adult and infantile schedules explicit in a series of conferences given in Lille in 1907: "Do we adults eat at all hours of the day and night?...No, we have well-determined mealtimes.

Very well! It should be the same for infants (Pinard, *Puériculture,* 58)." Dr. Clothilde Mulon expressed a similar sentiment in her 1925 *Manuel élémentaire de puériculture* when she counseled that it was "very important to regulate children right from the outset of life, for feeding and for sleep (Mulon 113)."

Clearly, this was not the moral education that Rousseau associated with breastfeeding, but rather the disciplinary conditioning so central to Foucault's analysis of "political anatomy" in bourgeois society. Pinard, Mulon, and others did stress the physiological justifications for regulating an infant's feeding schedule, such as the limited capacity of a newborn's stomach and the harmful consequences of overfeeding and indigestion. However, the lesson that individualized, biological drives must conform to external discipline was unmistakable and suggests that the educational "machine" Foucault described, with its carefully combined chronological series, each appropriate to the developmental stage of the child, extended beyond the formal boundaries of the primary school or the military academy and into the nursery (Foucault 165). This emphasis on planning, discipline, and rationality were personal characteristics which distinguished French nationals from their colonial subjects.

There were divergent views on the optimal schedule. Some, like Pinard, said only that newborns should be fed 6-8 times in a twenty-four hour period, with feedings spaced apart at 2-3 hour intervals (Pinard 62-63). Alternately, in his *Précis d'hygiène infantile et de puériculture,* Adolphe Combe insisted that feedings should take place every two-and-a-half hours "like clockwork, starting the first meal *exactly* at 7:00 am and the last exactly at 10:00 pm...(Combe 400)" Meanwhile, Clothilde Mulon offered a detailed outline of a feeding schedule that altered with the infant's age, starting at every two hours in the first two days after birth, every two-and-a-half hours from the third day until the first month, then every three hours thereafter (Mulon 113-114). Despite the variation in opinions about the correct schedule, the authors generally agreed that the common practice of feeding an infant whenever it cried should be discouraged, and that a central part of the task of nursing involved habituating a child to a regular schedule.

Except in the case of Dr. Gaston Variot, there was similar agreement about regulating the duration of each feeding. All of the authors acknowledged that the amount of time necessary varied depended upon the infant's aptitude (i.e. an energetic vs. a "lazy" feeder) as well as the mother's physiology. In general, the prescribed length of time ranged from 5 to 20 minutes, with the average limit being 15 minutes. This was seen as the best means to guard against over-feeding, which the doctors identified as a cause of potentially lethal digestive disorders. The prevailing view among experts in *puériculture* was that the fundamental cause of infant mortality was, in the words of Dr. Pierre Lereboullet, Director of the Institut de Puériculture at the Hospice des Enfants Assistés, "deprivation of the mother's breast" (*la privation du sein maternel*), a sentiment which had inspired the passage of the Roussel Law of 1874 regulating the wet-nursing industry (Sussman).

However, physicians also agreed that maternal ignorance of the correct method of feeding was an equally significant threat to a child's survival and development. Thus, preserving young lives involved curing mothers of the "bad habit" of allowing an infant to nurse until he or she fell asleep (Combe 403). Although they might disagree on the precise quantity of milk that should be consumed each day to ensure normal growth, Drs. Mulon, Combe, Lereboullet, and Rudaux and Montet all included tables of average daily dietary rations in their manuals, ranging from the first days after birth to eight months.

In order to gauge whether an infant was consuming the prescribed amount for normal development, mothers were instructed that measuring a child's weight should be a regular part of nursing. As Dr. Combe put it, "a good scale is thus indispensable for monitoring closely the child's growth... (Combe 416)" Before nursing her child, a mother was to weigh it on a specially designed scale (*une balance pèse-bébé*) and record the weight on a chart. This represents a significant departure from Dr. Pierre Budin's pragmatic approach in the 1890s. Where Budin made allowances for the fact that many women might not own a scale and offered suggestions on how to gain access to one in their neighborhood, obstetricians who published *puériculture* manuals after the First World War rarely addressed this difficulty. By the interwar era, scales (and not merely ordinary, all-purpose scales, but those designed specifically for weighing babies) were treated as requisite equipment for any nursery.

There was some disagreement as to how frequently mothers should weigh infants. Drs. Combe and Mulon considered that weighing once per week sufficed, while Drs. Rudaux and Montet, in their 1931 *Guide pratique de la mère,* advised recording a newborn's weight on a daily basis in the first month of life, then weekly thereafter. On the other hand, Dr. Lereboullet partitioned an infant's first year of life into numerous stages and assigned a schedule for weighing specific to each: once every two to three days during the first few weeks; weekly from ages one to three months; every fifteen to twenty days after three months; and monthly once the child was one year old (Lereboullet 114). However, in general it was agreed that the most reliable indicator of normal, healthy development was physical increase.

Certainly, doctors who authored child-care manuals acknowledged that it would be unrealistic to expect every infant to conform to the same pattern of growth. Many admitted that nothing was more variable than a newborn's appetite or a child's growth. Nonetheless, chapters on growth and development usually included charts and graphs that plotted average weights and lengths for infants according to age. For example, Dr. Lereboullet advised that in a healthy, well-nourished child, growth followed a regular progression that more or less adhered to average weights which he supplied in a table. In addition to his own tables, Dr. Lereboullet reproduced some of Dr. Marfan's charts of average weight gain in the first months and first year of life. The overall message about infant growth was thus ambivalent. While obstetricians paid lip-service to the fact that

each infant's growth and development was unique, the predominance of graphs, tables, and charts in *puériculture* manuals reinforced the notion that the human body could be standardized.

Similar charts appeared in Rudaux and Montet's *Guide pratique de la mère*, and served as examples of the method according to which mothers should record and monitor their child's development. Interestingly, the authors also cautioned their readers against relying on growth charts in commercial brochures, which they argued were often based on erroneous or misleading calculations and served only to persuade mothers to buy one variety of baby formula or another (Rudaux and Montet 130-131). This was not an idle concern among physicians, for the burgeoning pharmaceutical industry had made mothers the target of advertising for numerous pediatric medications, hygiene products, and infant dietary supplements. In their quest to extend their authority over infant care, doctors faced competition from the manufacturers and purveyors of commercial products who were just as adept as the medical profession at manipulating the rhetoric of national degeneration, maternal responsibility, and pro-natalism. In a climate of profound, widespread anxiety about France's stagnant population growth relative to its national rivals (particularly the German Empire), multiple constituencies were able to seize upon issues such as the reduction of infant mortality in order to serve their own interests. Like any discourse, the discourse that centered on reforming maternal breastfeeding and infant care in general defied the efforts of any single group, even physicians, to monopolize it. Thus, weight tables and growth charts could readily be appropriated by advertisers who sought to give their message an aura of scientific authority, much as obstetricians who authored *puériculture* manuals might include tables from earlier authorities such as Marfan in order to situate their own work within the prevailing views of the medical community. Drs. Rudaux and Montet faced the challenge of discrediting advertisers' appropriations of the growth charts that had become a hallmark of "scientific" breastfeeding while simultaneously validating their own use of them to instruct mothers in the correct method of nourishing their infants.

If physicians sought to combat the encroachment of commercial interests in the field of *puériculture* (without, of course, recognizing the commercial aspect of their own efforts to transform infant care into a specialized branch within the medical profession), this did not mean that there were not also significant disagreements within the obstetrical community over the correct method of feeding and promoting an infant's growth. Dr. Gaston Variot, physician at the Hôpital Péan and president/founder of the Goutte de Lait in Belleville, differed from his colleagues on the benefits of weighing infants and regulating their nutritional intake (Congrès International pour la Protection de l'Enfance 183). Variot was recognized as a leader in the field of *puériculture*. In his *Manuel de puériculture,* Dr. Lereboullet credited Variot with having instituted the courses in *puériculture* that were the basis for Lereboullet's treatise, and cited Variot's research on calculating

the optimal dietary ration for infants based on body length (Lereboullet 39). Dr. Mulon likewise referred to Variot's work in her discussion of dietary rations (Mulon 117). Yet unlike the other physicians whose manuals have been considered thus far, Variot was highly critical of the practice of restricting an infant's diet and the tyranny of the scale.

In a published collection of conferences on *puériculture* that Variot had given at the Goutte de Lait in Belleville, he acknowledged that for approximately fifteen years, doctors had been instructing women to ration their babies' diets so strictly that the practice of weighing newborns to monitor nutritional intake had become widespread (Variot 68). According to Variot, the overzealous campaign to regulate feeding posed a threat to infant health. So preoccupied were pediatricians with overfeeding that they neglected the dangers of malnutrition. At the nursery under his direction, infants were allowed to drink their fill (Variot 80). Variot bluntly reminded his audience that the scale, like the thermometer, should be used as an instrument for gauging sickness, and called for an end to its use in imposing a draconian control over feeding. "Milk should be given freely, as nourishment," he declared, "not measured in doses like a medication (Variot 83-84)."

In spite of Dr. Variot's criticisms of the prevailing tendency of pediatricians to advise mothers to monitor and regulate their infants' nutritional intake, he did not argue against the use of the scale itself. Rather, he called for moderation, arguing that weekly measurements were adequate, and that the more frequent and systematic use of the scale should be reserved for infants whose growth had slowed dramatically, or who had actually lost weight (Variot 82-83). And in the instructional literature that was distributed to mothers who visited the Goutte de Lait in Belleville, Variot advised that infants should be weighed every week to fifteen days with a reliably precise scale, as it was the only effective means to confirm regular, healthy growth. Indeed, although Variot condemned what he perceived as an overzealous use of the scale restrict feeding, he advocated an even more meticulous procedure of measurment that involved recording not just weight but length (Variot 382). Mothers could gather the two sets of measurements by using a specialized scale, a *pèse-et-toise-bébé,* or what Lereboullet described in his *Manuel de puériculture* as a *pèse-et-toise-bébé du Dr. Variot* (Dr. Variot's infant scale).

What emerges from a survey of *puériculture* manuals from the 1880s through the 1930s is a construction of motherhood that involves more than nurturing: it requires the regular collection of quantifiable data. Breastfeeding became more than an idealized, sentimental bonding moment between mother and child, or an act that cultivated moral virtue in the impressionable future citizen. Experts in *puériculture* agreed that, as Dr. Pinard put it, the education of children should begin at birth. However, the education they emphasized involved adapting the newborn to a strict schedule, thus instilling in the child a sense of a world that

operated according to externally imposed norms rather than the child's own, individual rhythms.

This shift in the conceptualization of motherhood could be interpreted as an example of the medicalization of the family, and left at that. However, what is of even greater interest are the intersections between the encroachment of medical authority over child care, natalist rhetoric that tied the survival of the French nation to increased population, and the re-articulation of this rhetoric after the First World War in a manner that juxtaposed the staggering casualties of the trenches with what were perceived as unacceptably high infant mortality rates. The natalist goal of increasing the French population (as distinct from increasing the population of France through immigration) could be achieved either by promoting higher birth rates, or reducing mortality rates. Preserving lives, and especially reducing infant mortality, seemed more feasible than stimulating an increase in births. Certainly, attacks on abortion and birth control, and criticism of egoistic women who refused to produce children were indeed central to natalist rhetoric. Karen Offen, Mary Louise Roberts, and Jean Pedersen among others, have analyzed at length the ideological attack on women's reproductive freedom and noted that natalists often framed motherhood in a martial, *revanchiste* context. Although France had emerged from World War I as the victor, militant advocates of increased birthrates warned that German mothers were laying the groundwork for future revenge against France (Offen 138).

However, consideration should also be given to how a mother's duties were defined beyond the act of giving birth. This might address the aspect of natalist rhetoric that so exasperated Nelly Roussel: "These gentlemen may want children, but they don't seem to know how they're made! (Roberts 119)" Natalist concerns about demographic decline yielded pressure on women to become mothers, but also to mother in a particular way. The more vocal natalists in political office and in the press may have neglected to address how children were made, but authors of *puériculture* manuals claimed to speak authoritatively on this very question.

In stressing the importance of a mother's ability to raise healthy children, manuals of *puériculture* regularly emphasized the link between the devastation of the First World War and what was often referred to as a "crisis of maternity". In some cases, through a familiar sleight of hand physicians shifted attention away from a war created and directed largely by men, and toward women's negligence as mothers, in identifying the cause of France's demographic decline. For example, Dr. P. Lereboullet noted that in Lille, the period of German occupation from 1914-1918 saw a drop in infant mortality. In Dr. Lereboullet's assessment, the war -- so destructive of life in other respects -- had proven beneficial for infants because mothers, unable to procure much cow's milk, were obliged to nurse their own children (Lereboullet 11-12). A similar conclusion was reached by Dr. Mulon, who noted that infant mortality initially declined with the outbreak of the war,

because necessity forced women to nurse their own children. Significantly, Dr. Mulon noted that the problem of infant mortality worsened in 1915-1916, when women were mobilized as an industrial workforce (Mulon 11).

This made it possible to emphasize the connection between depopulation and women's alleged unwillingness to breastfeed. "Women, in France, no longer nurse their children," came the ominous warning from Dr. V. Wallich in a July 1921 issue of the *Bulletin de l'Académie de Médecine*. It is true that this sounded no new alarms, but rather echoed a common refrain from the latter decades of the nineteenth century. As Mary Louise Roberts has noted, the natalist rhetoric of the interwar years drew heavily on themes that had been articulated for many years prior to the Great War, and commonly attributed the perceived decline in breastfeeding to women's egoism (Roberts 120-147). Certainly, this was the contention of Dr. Marfan in his preface to Clothilde Mulon's *Manuel élémentaire de puériculture*, although Dr. Marfan distinguished between middle- and upper-class women (who refused to nurse out of selfishness) and working-class women (whose employment outside the home was to blame) (Mulon 7).

However, some of the authors were very explicit in linking the impact of the war on France's population to their campaign to reform the practice of maternal breastfeeding. For example, Dr. Mulon began her treatise with an extended consideration of *puériculture* before the war, characterizing the era between 1870 and 1914 as a time when medical men and advocates of *puériculture* warned of the trend toward depopulation in France but were met with indifference and "ironic smiles", which ultimately cost the nation dearly. She then suggested that the war might have been avoided if the crisis of depopulation had been treated more seriously and described as prophetic Jacques Bertillon's pre-war assertion that war would break out between Germany and France when the ratio between their populations reached 2:1 (Mulon 22). Mulon rendered the relationship between men's sacrifices during the war, depopulation, and women's maternal responsibilities transparent by concluding: "Our dead made their sacrifice so that France would survive: let us not betray them by allowing her to perish (Mulon 23)." Variot likewise articulated the mission of *puériculture* as "filling the immense voids that Germanic barbarism cut through our heroic combattants" by preserving those children who had already come into the world (Variot 40).

This sentiment was echoed in *puériculture* manuals written by those outside of the medical profession as well. By the interwar era, the subject, which had been received with bemused skepticism when first introduced by Dr. Caron during the Second Empire, had become a standard subject of instruction for girls. Whether written by physicians or lay authors, the format and content of lessons in most manuals tended to follow the model established by the obstetricians whose works were discussed above. For example, a 1931 *puériculture* manual for primary-school students written by Mme. Nelly Bressan advised young readers that mothers should restrict their infants to a regular schedule for breastfeeding,

specified the quantities that should be consumed during a ten-minute feeding, and advocated the regular use of a scale to monitor a baby's growth. In the first lesson, which was devoted to an explanation of the importance of *puériculture,* Mme. Bressan alluded to the impact of the First World War on France's population. Citing pre-1914 statistics that counted 140,000 infant deaths annually, Mme. Bressan proclaimed that if even half of those deaths could be prevented, the problem of repopulating the French nation could be partly solved. For this reason, she argued, the study of *puériculture* was "an absolute necessity, a duty for every future mother (Bressan 6)."

Puériculture manuals of the 1920s and 1930s emphasized the connection between the heroic sacrifices of France's soldiers and the imperative for women to fulfill their "maternal duty" so that the nation would not perish through depopulation. In this, they evoked the gendered notion of a "blood tax" owed in common by all citizens. Ironically, the link between the war's appalling casualties and motherhood ran even deeper than was suggested by the natalist rhetoric of maternal responsibility. The experience of a "war of attrition" and increased interest in rationalized production methods in industry during and after the First World War coincided with a redefinition of motherhood to include systematic monitoring and control of an infant's physical development that tended to produce uniform, healthy bodies. The relationship between military strategies of attrition and the "feminization" of the workforce can be seen most explicitly in the fact that the drive to replace male factory workers with women coincided with the Battle of Verdun during the summer of 1916 (Darrow 170). This is not to suggest that motherhood was headed toward a "brave new world" in which producing children was reduced to an assembly-line procedure that involved a series of measurements and calculated interventions in the physical development of standardized human beings. However, there was definitely a greater emphasis on weighing, regimented feeding and monitoring growth against statistical averages in *puériculture* manuals published after 1918 than there was in earlier advice literature, despite the intensified interest in scientific, hygienic child care, and the socio-medical conflation of national regeneration with the regeneration of the body, in the second half of the nineteenth century. In his research on the French fascination with statistics and demographics during the "long" nineteenth century, Joshua Cole eloquently and persuasively argued that natalists of the 1860s and 1870s, such as Alexandre Mayer, viewed the maternal body, and particularly the mother's milk, as the most crucial element in an infant's *environment* (Cole, *Power of Large Numbers,* 168). After the First World War, the mother's body was no longer, in itself, the key to vigorous generations of French citizens. It had to be supplemented by instruments which would measure and record the child's growth.

It may seem like a considerable leap from a basic instrument such as a scale to the electric appliances that have been associated with the "Taylorization" of housework during the 1920s and 1930s. Yet Robert L. Frost's description of the

model of the ideal, modern housewife that was articulated in interwar France stressed the combination of *puériculture* and Taylorism that enabled her to manage domestic responsibilities with scientific efficiency. Significantly, Frost noted that the modern housewife represented a synthesis of the independent, educated *garçonne* and the "near-bovine", traditional wife (Frost 121). The naturalized image of the fertile mother, so exalted in earlier literature such as Zola's *Fécondité,* seemed increasingly out of touch with the France that emerged from the First World War. The strain exerted on industry by the deliberate strategy of attrition in trench warfare had compelled a certain degree of rationalization in key areas of manufacture, while the urgent demand for workers undermined the traditional rhetoric of domesticity. Women's patriotism, long equated motherhood, was now called upon to encompass a the rationalized environment and accelerated pace of modern industry. The emphasis placed on disciplining breastfeeding with the use of the scale and optimal growth charts in order to produce greater numbers of future workers and soldiers according to desired specifications was highly in tune with French society as it had been transformed by the dictates of modern warfare. The same, systematic, rational methods that had been introduced to optimize production of the shells and other war materials that decimated an entire generation of Frenchmen were held out as the best hope for maximizing the quantity and quality of infants needed to replenish the citizen body.

If motherhood was women's patriotism, the emphasis on measurement in *puériculture* manuals of the interwar period may reflect the shift toward eugenicist visions of what made a citizen. Where Enlightenment political thought had emphasized the equality of all citizens before the law and the adoption of laws that would cultivate virtue, natalist and eugenicist rhetoric of the 1920s and 1930s focused on cultivating a desired physical uniformity of the body of French citizens. Granted, the perceived demographic crisis made it necessary to accept a certain racial "hybridity" in any schemes for revitalizing the national body because a significant portion of the population increase achieved between the two world wars was due to immigration. However, willingness to admit the assimilation of immigrants through intermarriage with French women cut off abruptly where the "racially incompatible" subjects of France's African and Asian colonies were concerned (Camiscioli 595). The opposition to sexual intermingling between French individuals and the subject "races" of France's empire was not in itself new. It is significant that in Zola's *Fécondité,* Dominique, who returned with news of his prosperous and plentiful offspring in Africa, had married a French woman born in Senegal. Thus, while France's African colonies might represent the *site* of increased fertility and the promise of France's future rejuvenation, "racial purity" was preserved. Seemingly sterile on its own soil, when transplanted to Africa the French "race" was unsurpassed in its fertility (Zola 491-497). The belief in separate, biologically incompatible "races", which would reach its zenith in the eugenics movement of the interwar period, had been reinforced by the supposedly

"scientific" authority of physical anthropologists like Paul Broca, whose meticulous measurements of the cranial capacities of different "races" were widely accepted as evidence of French and European superiority and African inferiority. The fetish for corporeal measurements as a key indicator of individual fitness for the replenishment of the French citizen body had its parallel in the rationalization of breastfeeding.

Works Cited

Adas, Michael. Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance. Ithaca and London: Cornell University Press, 1989.

Bressan, Nelly. *La Puériculture en 10 Leçons à l'école primaire*. Chambéry: Maison d'Études des Primaires, 1931.

Budin, Pierre. *Hygiène de l'enfance. Allaitement*. Paris: Progrès Médical, 1892.

Camiscioli, Elisa. "Producing Citizens, Reproducing the 'French Race': Immigration, Demography, and Pronatalism in Early Twentieth-Century France." *Gender & History* 13:3 (November 2001): 593-621.

Caron, Alfred. *La Puériculture ou la science d'élever hygiéniquement et physiologiquement les enfants*. Second Edition, Rouen: E. Orville, 1866.

Cole, Joshua. *The Power of Large Numbers: Population, Politics, and Gender in Nineteenth-century France*. Ithaca and London: Cornell University Press, 2000.

Combe, Dr. Adolph. *Précis d'hygiène infantile et de puériculture.* Paris: Baillière, 1918.

Congrès International pour la Protection de l'Enfance. *Evolution de la puériculture*. Paris: Comité National de l'Enfance, 1933.

Darrow, Margaret H. *French Women and the First World War: War Stories of the Home Front*. Oxford and New York: Berg, 2000.

Degoix, Dr. Casimir. *Allaitement. Mères et nourrices. Conférences faites à l'exposition d'hygiène de l'enfance, le 7 juillet 1887*. Paris: Dubuisson, 1887.

Foucault, Michel. *Discipline and Punish: The Birth of the Prison.* Trans. Alan Sheridan. New York: Vintage, 1979.

Frost, Robert L. "Machine Liberation: Inventing Housewives and Home Appliances in Interwar France." *French Historical Studies* 18:1 (Spring 1993): 109-130.

Lereboullet, Dr. P. *Manuel de Puériculture*. Paris: Masson, 1932.

Mulon, Dr. Clothilde. *Manuel élémentaire de puériculture*. Paris: Masson, 1925.

Offen, Karen. "Body Politics: Women, Work, and the Politics of Motherhood in France, 1920-1950." *Maternity & Gender Policies: Women and the Rise of the European Welfare States, 1880s-1950s* Ed. Gisela Bock and Pat Thane, New York: Routledge, 1991: 138-159.

Pedersen, Jean. "Regulating Abortion and Birth Control: Gender, Medicine, and Republican Politics in France, 1870-1920." *French Historical Studies* 19:3 (Spring 1996): 673-698.

Pinard, Dr. Adolphe. *Puériculture et hygiène infantile. Conférences faites pour l'enseignement des jeunes filles.* Paris: F. Alcan, 1908.

---. *L'Enfant de sa naissance à la fin de la première enfance.* Third Edition, Paris: A. Colin, 1924.

Roberts, Mary Louise. *Civilization Without Sexes: Reconstructing Gender in Postwar France, 1917-1927* Chicago and London: University of Chicago Press, 1994.

Rousseau, Jean-Jacques. *Emile, or On Education*. Trans. Alan Bloom, New York: Harper Collins, 1979.

Rudaux, Dr. Pierre, and Dr. Charles Montet. *Guide pratique de la mère. Les deux premières années de l'enfant. Notions élémentaires de puériculture.* Paris: Masson, 1931.

Schneider, William H. *Quality and Quantity: The Quest for Biological Regeneration in Twentieth-Century France.* Cambridge and New York: Cambridge University Press, 1990.

Sussman, George D. *Selling Mothers' Milk: The Wet-Nursing Business in France, 1715-1914.* Chicago: University of Illinois Press, 1982.
Variot, Dr. Gaston. *Comment sauvegarder les bébés*. Paris: O. Doin, 1922.
Zola, Emile. *Fécondité* Vol. 8 *Oeuvres complètes*. Ed. Henri Mitterand, Paris: Cercle du livre précieux, 1968.