

## **Baby in a Box**

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In that brave new world which science is preparing for the housewife of the future, the young mother has apparently been forgotten. Almost nothing has been done to ease her lot by simplifying and improving the care of babies.

When we decided to have another child, my wife and I felt that it was time to apply a little labor-saving invention and design to the problems of the nursery. We began by going over the disheartening schedule of the young mother, step by step. We asked only one question: Is this practice important for the physical and psychological health of the baby? When it was not, we marked it for elimination. Then the "gadgeteering" began.

The result was an inexpensive apparatus in which our baby daughter has now been living for eleven months. Her remarkable good health and happiness and my wife's welcome leisure have exceeded our most optimistic predictions, and we are convinced that a new deal for both mother and baby is at hand.

We tackled first the problem of warmth. The usual solution is to wrap the baby in half-a-dozen layers of cloth-shirt, nightdress, sheet, blankets. This is never completely successful. The baby is likely to be found steaming in its own juices or lying cold and uncovered. Schemes to prevent uncovering may be dangerous, and in fact they have sometimes even proved fatal. Clothing and bedding also interfere with normal exercise and growth and keep the baby from taking comfortable postures or changing posture during sleep. They also encourage rashes and sores. Nothing can be said for the system on the score of convenience, because frequent changes and launderings are necessary.

Why not, we thought, dispense with clothing altogether--except for the diaper, which serves another purpose--and warm the space in which the baby lives? This

should be a simple technical problem in the modern home. Our solution is a closed compartment about as spacious as a standard crib. The walls are well insulated, and one side, which can be raised like a window, is a large pane of safety glass. The heating is electrical, and special precautions have been taken to insure accurate control.

After a little experimentation we found that our baby, when first home from the hospital, was completely comfortable and relaxed without benefit of clothing at about 86 degrees F. As she grew older, it was possible to lower the temperature by easy stages. Now, at eleven months, we are operating at about 78 degrees F., with a relative humidity of 50 percent.

Raising or lowering the temperature by more than a degree or two produces a surprising change in the baby's condition and behavior. This response is so sensitive that we wonder how a comfortable temperature is ever reached with clothing and blankets.

The discovery which pleased us most was that crying and fussing could always be stopped by slightly lowering the temperature. During the first three months, it is true, the baby would also cry when wet or hungry, but in that case she would stop when changed or fed. During the past six months she has not cried at all except for a moment or two when injured or sharply distressed--for example, when inoculated. The "lung exercise" which so often is appealed to to reassure the mother of a baby who cries a good deal takes the much pleasanter form of shouts and gurgles.

How much of this sustained cheerfulness is due to the temperature is hard to say, because the baby enjoys many other kinds of comfort. She sleeps in curious postures, not half of which would be possible under securely fastened blankets.

When awake, she exercises almost constantly and often with surprising violence. Her leg, stomach, and back muscles are especially active and have become strong and

hard. It is necessary to watch this performance for only a few minutes to realize how severely restrained the average baby is, and how much energy must be diverted into the only remaining channel--crying.

A wider range and variety of behavior are also encouraged by the freedom from clothing. For example, our baby acquired an amusing, almost ape-like skill in the use of her feet. We have devised a number of toys which are occasionally suspended from the ceiling of the compartment. She often plays with these with her feet alone and with her hands and feet in close co-operation.

One toy is a ring suspended from a modified music box. A note can be played by pulling the ring downward, and a series of rapid jerks will produce "Three Blind Mice." At seven months our baby would grasp the ring in her toes, stretch out her leg and play the tune with a rhythmic movement of her foot.

We are not especially interested in developing skills of this sort, but they are valuable for the baby because they arouse and hold her interest. Many babies seem to cry from sheer boredom--their behavior is restrained and they have nothing else to do. In our compartment, the waking hours are invariably active and happy ones

Freedom from clothes and bedding is especially important for the older baby who plays and falls asleep off and on during the day. Unless the mother is constantly on the alert, it is hard to cover the baby promptly when it falls asleep and to remove and arrange sheets and blankets as soon as it is ready to play. All this is now unnecessary.

Remember that these advantages for the baby do not mean additional labor or attention on the part of the mother. On the contrary, there is an almost unbelievable saving in time and effort. For one thing, there is no bed to be made or changed. The "mattress" is a tightly stretched canvas, which is kept dry by warm air. A single bottom sheet operates like a roller towel. It is stored on a spool outside the compartment at one end and passes into a wire hamper at the other. It is ten yards long and lasts a

week. A clean section can be locked into place in a few seconds. The time which is usually spent in changing clothes is also saved. This is especially important in the early months. When we take the baby up for feeding or play, she is wrapped in a small blanket or simple nightdress. Occasionally she is dressed up "for fun" or for her play period. But that is all. The wrapping blanket, roller sheet, and the usual diapers are the only laundry actually required.

Time and labor are also saved because the air which passes through the compartment is thoroughly filtered. The baby's eyes, ears, and nostrils remain fresh and clean. A weekly bath is enough, provided the face and diaper region are frequently washed. These little attentions are easy because the compartment is at waist level.

It takes about one and one-half hours each day to feed, change, and otherwise care for the baby. This includes everything except washing diapers and preparing formula. We are not interested in reducing the time any further. As a baby grows older, she needs a certain amount of social stimulation. And after all, when unnecessary chores have been eliminated, taking care of a baby is fun.

An unforeseen dividend has been the contribution to the baby's good health. Our pediatrician readily approved the plan before the baby was born, and he has followed the results enthusiastically from month to month. Here are some points on the health score: When the baby was only ten days old, we could place her in the preferred face-down position without danger of smothering, and she has slept that way ever since, with the usual advantages. She has always enjoyed deep and extended sleep, and her feeding and eliminative habits have been extraordinarily regular. She has never had a stomach upset, and she has never missed a daily bowel movement.

The compartment is relatively free of spray and air-borne infection, as well as dust and allergic substances. Although there have been colds in the family, it has been easy to avoid contagion, and the baby has completely escaped. The neighborhood

children troop in to see her, but they see her through glass and keep their schoolbag diseases to themselves. She has never had a diaper rash.

We have also enjoyed the advantages of a fixed daily routine. Child specialists are still not agreed as to whether the mother should watch the baby or the clock, but no one denies that a strict schedule saves time, for the mother can plan her day in advance and find time for relaxation or freedom for other activities. The trouble is that a routine acceptable to the baby often conflicts with the schedule of the household. Our compartment helps out here in two ways. Even in crowded living quarters it can be kept free of unwanted lights and sounds. The insulated walls muffle all ordinary noises, and a curtain can be drawn down over the window. The result is that, in the space taken by a standard crib, the baby has in effect a separate room. We are never concerned lest the doorbell, telephone, piano, or children at play wake the baby, and we can therefore let her set up any routine she likes.

But a more interesting possibility is that her routine may be changed to suit our convenience. A good example of this occurred when we dropped her schedule from four to three meals per day. The baby began to wake up in the morning about an hour before we wanted to feed her. This annoying habit, once established, may persist for months. However, by slightly raising the temperature during the night we were able to postpone her demand for breakfast. The explanation is simple. The evening meal is used by the baby mainly to keep herself warm during the night. How long it lasts will depend in part upon how fast heat is absorbed by the surrounding air.

One advantage not to be overlooked is that the soundproofing also protects the family from the baby! Our intentions in this direction were misunderstood by some of our friends. We were never put to the test, because there was no crying to contend with, but it was never our policy to use the compartment in order to let the baby "cry it out."

Every effort should be made to discover just why a baby cries. But if the condition cannot be remedied, there is no reason why the family, and perhaps the neighborhood as well, must suffer. (Such a compartment, by the way, might persuade many a landlord to drop a “no babies” rule, since other tenants can be completely protected.)

Before the baby was born, when we were still building the apparatus, some of the friends and acquaintances who had heard about what we proposed to do were rather shocked. Mechanical dish-washers, garbage disposers, air cleaners, and other labor-saving devices were all very fine, but a mechanical baby tender--that was carrying science too far! However, all the specific objections which were raised against the plan have faded away in the bright lights of our results. A very brief acquaintance with the scheme in operation is enough to resolve all doubts. Some of the toughest skeptics have become our most enthusiastic supporters.

One of the commonest objections was that we were going to raise a “softie” who would be unprepared for the real world. But instead of becoming hypersensitive, our baby has acquired a surprisingly serene tolerance for annoyances. She is not bothered by the clothes she wears at playtime, she is not frightened by loud or sudden noises, she is not frustrated by toys out of reach, and she takes a lot of pommeling from her older sister like a good sport. It is possible that she will have to learn to sleep in a noisy room, but adjustments of that sort are always necessary. A tolerance for any annoyance can be built up by administering it in controlled dosages, rather than in the usual accidental way. Certainly there is no reason to annoy the child throughout the whole of its infancy, merely to prepare it for later childhood.

It is not, of course, the favorable conditions to which people object, but the fact that in our compartment they are “artificial.” All of them occur naturally in one favorable environment or another, where the same objection should apply but is never raised. It

is quite in the spirit of the “world of the future” to make favorable conditions available everywhere through simple mechanical means.

A few critics have objected that they would not like to live in such a compartment themselves--they feel that it would stifle them or give them claustrophobia. The baby obviously does not share this opinion. The compartment is well ventilated and much more spacious than a Pullman berth, considering the size of the occupant. The baby cannot get out, of course, but that is true of a crib as well. There is less actual restraint in the compartment because the baby is freer to move about. The plain fact is that she is perfectly happy. She has never tried to get out nor resisted being put back in, and that seems to be the final test.

Another early objection was that the baby would be socially starved and robbed of the affection and mother love which she needs. This has simply not been true. The compartment does not ostracize the baby. The large window is no more of a social barrier than the bars of a crib. The baby follows what is going on in the room, smiles at passersby, plays “peek-a-boo” games, and obviously delights in company. And she is handled, talked to, and played with whenever she is changed or fed, and each afternoon during a play period which is becoming longer as she grows older.

The fact is that a baby will probably get more love and affection when it is easily cared for, because the mother is not so likely to feel overworked and resentful of the demands made upon her. She will express her love in a practical way and give the baby genuinely affectionate care.

It is common practice to advise the troubled mother to be patient and tender and to enjoy her baby. And, of course, that is that any baby needs. But it is the exceptional mother who can fill this prescription upon demand, especially if there are other children in the family and she has no help. We need to go one step further and treat the mother with affection also. Simplified child care will give mother love a chance.

A similar complaint was that such an apparatus would encourage neglect. But easier care is sure to be better care. The mother will resist the temptation to put the baby back into a damp bed if she can conjure up a dry one in five seconds. She may very well spend less time with her baby, but babies do not suffer from being left alone but only from the discomforts which arise from being left alone in the ordinary crib.

How long do we intend to keep the baby in the compartment? The baby will answer that in time, but almost certainly until she is two years old, or perhaps three. After the first year, of course, she will spend a fair part of each day in a playpen or out-of-doors. The compartment takes the place of a crib and will get about the same use. Eventually it will serve as sleeping quarters only.

We cannot, of course, guarantee that every baby raised in this way will thrive so successfully. But there is a plausible connection between health and happiness and the surroundings we have provided, and I am quite sure that our success is not an accident. The experiment should, of course, be repeated again and again with different babies and different parents. One case is enough, however, to disprove the flat assertion that it can't be done. At least we have shown that a moderate and inexpensive mechanization of baby care will yield a tremendous saving in time and trouble, without harm to the child and probably to its lasting advantage.