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Antonello: Can you talk about the question of time and the industrial revolution?

00:00:45:09P I guess from my perspective, the most interesting aspect of the change in the concept of time, with the industrial revolution is the gender difference that appeared rather quickly. As men went out to work in factories or single women, and single women went out to work in factories and married women were staying home and doing work in the home. The married women were in essence working with a concept of time, using a concept of time that was fundamentally preindustrial, while the men were going out. I mean, the men were working on a schedule that was based on the clock, it was based on having to be at work at a certain time, that was based on being at work for that time while women were still doing fundamentally task oriented work. They were, they had a set of task and often those task were interlocked where they would do one task in the (?) of another. They would leave the baby for a minute to go stir the soup while taking care of both soup and baby. So that their orientation was not so much towards time as it was towards the task they had to achieve and that their work involved.

00:02:14:06P At the same time, within the household there were people doing both kinds.. or laboring under both kinds of time, of time concepts and over the period of industrialization the household more and more came to have to adjust to the schedules of the men who were leaving home to work. They, certainly the literature that was addressed to women running households, more and more made strong points about the fact that it just wouldn't do to run your house simply on the basis of your task, and simply on the basis of when the sun came up and went down, when the men had to be at work at a certain time and were going to come home from work at a certain time. And so there were these outside kinds of time constraints that households were increasingly having to pay attention to. At the same time, for most of the 19th century, as long as housework retained the huge jobs of hauling water and building fires, which made it pretty fundamentally a fulltime task for at least one adult worker just to run a household. As long as that happened then there was this sort of dissonance within a household, where one of the adults was working on the task orientation and the other was working on a time orientation.

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STRASSER 118A

Antonello: What were the social implications of the change in time?

00:03:54:23P Well, I think that the ....

Antonello: Is there a household technology that can be used as an example

of housework, gender and time?

00:04:25:19P Well there were a number of kinds of household technology that restructured the time and that made it more possible for households to fit in with a larger society. The electric or gas stove for example, that could be turned on, just one burner could be turned on instead of building a fire and, you know, heating up the whole kitchen. It made for a possibility to restructure the work and to restructure the concept of time. It then becomes possible to, say at, two o'clock in the morning when you can't sleep, to come downstairs and go into the kitchen and make yourself a cup of tea, whereas, you would never build a fire in a stove just for to boil one cup of water. That kind of restructuring from a technology, I think, happened through really many of the kinds of technological devices that became common in households after the end of the 19th century during the beginning, the first few decades of the 20th century.

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STRASSER 118A

Karen: Was there a class difference in when technology reached households?

00:05:57:04P There was a difference in introduction of how, of technology into households, not only according to class but also according to whether people lived in the country or lived in a city. It's, I think, possible to make a very clear and accurate generalization that rich people got technology sooner than poor people did, and that city people got technology sooner than country people did. So that poor people in the country were behind poor people in the city as were rich people in the country, behind rich people in the city. So, it really in the US, the interaction of those two issues of class and of urbaness, I think, was very important in terms of the introduction of household technology. Plumbing for example, was something that rich people in the cities had really by the middle of the 19th century, and poor people in the country didn't have well into the 20th century, so, there could be tremendous differences and it's impossible to say, such and such happened at this time, if you're going to try to make statements about all the people in the US or all classes or that huge difference between the urban situation and the rural situation.

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STRASSER 118A

Antonello: Why was a woman's work never done after the industrial revolution?

00:07:54:10P Well, if time is money, then women are completely out of it. Women who were paid nothing for, in terms of money, for the work that they were doing, were in a situation where their work was completely undervalued. And at the same time, they

had an enormous amount of work to do, so that, it was never done. They did have this task oriented set of notions about their work, it's always possible to find something else to do in a household, as any of us whose done any work in households know. There's always something more to be cleaned, something more to be made, something more to be imagined. That the household is really, I think, or was really for most women, the work of creativity, the work of the imagination, that was their whole lives. And this was work that wasn't being paid and it wasn't being valued, and it wasn't being valued in part because it wasn't being paid, and it wasn't being valued in part because it was such task oriented work and not timed work, not the work that was becoming the valuable and accepted work of the society, as the industrial revolution went on.

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STRASSER 118A

Antonello: Was there a change with the new technologies for women and their work?

00:09:40:12P I think in the broader sense, technology has saved labor and

time for women working in the household. I think it's impossible to consider the advent of indoor plumbing or the advent of gas and electricity, without recognizing that there's an incredible difference in the amount of labor and the amount of time that household chores take, that laundry takes, that dishwashing takes, that cooking takes. If you have to build fires, if you have to haul water, at the same time I think there's much technology that has restructured time rather than saving it. And in fact, there's been some household technology that has returned work to the household. The best example of that is in laundry. Where commercial laundries were really becoming quite popular, they were something that many people used, even poor people in the cities. I've seen discussions of budgets of working people in the cities and they didn't have facilities to really do much laundry. In their houses they had a small sink, they weren't able to do a lot of sheets or tablecloths or any huge amount of laundry, and they sent laundry out. The advent of the electric washing machine brought that task back to the household. So in that sense, there's a counter example to the notion that technology has saved money, I mean excuse me, has saved time.

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STRASSER 118A

Antonello: Is it true that the time women saved in the household was used out of the house to make money?

00:11:27:24P Well not only were they expected to make money out of the house as they came to save, as the technology saved time. And it's certainly true that there's a historical conjunction between the end of the really heavy labor of the

household, with gas, electricity and plumbing and the real beginnings of the entrance of married women into the work force. Not only is that the case, but there were also new tasks really in the world of consumption. And those new tasks of organizing the household, of organizing consumption, of being the buying agent for the household, of literally going out and shopping. Those things took time, even though the things that were bought supposedly saved time from the old fashioned ways of doing things.

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STRASSER 118A

Antonello: How did household technology change women's lives? How did this effect social change?

00:12:54:04P Over the longrun, the whole function of the household changed with technological change. In the preindustrial situation, most of what was produced in the household, or most of the work that was done in the household was involved with producing goods. The household was in essence, the central economic institution. It was, it served the function of factory, most of the production of all of the social life happened within the household and most of the work of the household was productive work. In the US by the time of the Civil War, the major task of producing textiles was essentially gone, it had essentially been taken over by factories. As more and more of the work of the household was taken over by factories, the function of the household became more and more a function not of producing but of getting workers ready to go to work. Of literally reproducing the labor force of having children and also of sending husbands and children often off to work everyday. So that, you know, in sending them off to work, clothed and fed, and ready to work in the factory. So there was, there was this massive and fundamental shift from production to reproduction to serving the society in a very different way than households had by producing. The third step, and these steps overlap, I mean they shouldn't be seen as if they were separate completely, but the third step was for the household to take over the function of being the organizer, not of production for the house, for the society but of consumption for the society, so that the household became the unit of consumption. It became the center, the place where consumption was organized. And remained so til this day, and that turns out to be as central to the functioning of the 20th century economy as the productive function was to the 17th or 18th century economy.

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STRASSER 118A

Antonello: Did women resist the new technologies?

00:15:33:09P I think that most new technology for the household has actually been welcomed by women, I think it's important to understand that very little of it has been designed

expressly for women. And you know, when you look at household technology, at the important advances in household technology, very few of them were invented, patented or originally marketed for households. For example, canned foods were invented in France in the beginning, during the Napoleonic Wars, to be taken on to the war, to be taken on expeditions. It was a full century before canned foods became popular widespread among working class people, among any but very rich people. They, at the end of the 19th century they were, they were at first introduced for rich people by, you know, again for expeditions, for .....

00:16:50:07P Canned foods were introduced originally during, they were invented during the Napoleonic Wars, and throughout the 19th century they were used for expeditions, they were used for wars, they were used for situations where people were outside of their regular circumstances and needing prepared food. Needing food that would last, the preservation aspect of canned foods was very important. But it wasn't like the household was using those things until really almost the 20th century, not large numbers of households were eating canned foods. And it took really mass production at the end of the 19th century, and mass distribution, advertising, a whole sort of network of change to bring those foods to most peoples' table. Washing machines were first patented and the first commercial washer, the first washing machines that were produced commercially and worked for commercial laundries, rather than for household. There's many examples, there is.....I think that we can see that today, the technology of the microwave oven was not developed for kitchens. That technology was developed for, they had military applications, space exploration, all of the same sort, kinds of innovative tendency which didn't come out of the household. And so, I think in many circumstances the thing that they got is necess...doesn't necessarily serve the household perfectly, there wasn't always a perfect fit. But I wouldn't say that there has been much resistance, in fact, I think that women have welcomed things, technological devices to lighten their work in the household.

00:18:56:13P Some of them have been introduced a bit at a time, electricity for example, it took decades before households were using very much electricity, they tended to have one light bulb or one light bulb in each room. I don't have the statistics off the top of my head but, it took quite some time before any significant number of kilowatt hours were being used by households. And so, I mean there were irons and electric chaffing dishes, electric egg cookers and all kinds of things on the market, but really most households were using minimal amounts of electricity until probably well into the 1930's although they might have had it. But again, they welcomed what electricity they did have and use, electric lights were brighter, they involved no work whatsoever, whereas kerosene lamps involve a tremendous amount of work of cleaning the lamps, trimming the wick, filling the lamp. And it wasn't especially pleasant work either. So you know, that's an obvious reason why we would welcome getting

electricity, and I think that that's really has been true of most of the important innovations for household work.

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STRASSER 118A

Antonello: Did women have more time for a social life or less time?

00:20:43:11P Well, some technology gave women less opportunity for social life. It's certainly the case that when women were no longer meeting at the well, going to common places to get water for example. When they were no longer hanging clothes in their backyards, unable to talk over the fence to the next door neighbor, but they were now in their basements using their clothes dryer. When women were no longer shopping everyday because they had a refrigerator and could keep food at home longer. All of those things suggest that, to some extent that they, that technology has tended to isolate household workers within their household, and to cut down on the possibility for social interaction. I think it's also that's also the case with ready made clothes, which isn't a case of technology, per se, since the technology the sewing machine was invented fifty years before ready made clothes for women became common. That's more a case of economic organization, but again sewing was something that women used to do in groups and the quilting bees are of course the most famous and well known kind of

groups.

sewing

But I think there were all kinds of sewing groups, and when left when sewing no longer became essential to keeping a household together. And then there was an enormous amount to sew to keep a household together, before ready made clothes were firmly established.....

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STRASSER 118A

Antonello: Is there a relationship between domestic technology and women's entrance into factory work?

00:22:47:19P Well, again there's, there's certainly a statistical correlation that married women began to work in noticeable numbers in the US, at around the times that the really central pieces of domestic technology, plumbing, gas and electricity were introduced. The numbers are very small and it's only by knowing that you can extrapolate and that for the rest of the twentieth century those numbers of married women working outside the home grew enormously. That you can even see the significance in the small numbers that were working outside the households at that time, in 1905 1910 for example. But definitely that is when the trend really began.

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STRASSER 118A

Antonello: What was the media of the time writing about domestic technology? What ideology was behind household technology?

00:24:04:15P Well, at the turn of the century, there was a definite business ideology behind, behind the technology. There was a business ideology about the household, and that came out in very different ways. It came out in a striking movement towards scientific management in the home. Scientific management being a system developed for factory conditions which were extremely different from households. They were extremely different in two large and fundamental ways, one that the factory was a profit making institution and the household was presumably not a profit making institution. And two, that the factory was by definition a, a organization which brought together workers, more than one worker and more than two workers, for that matter. And therefore, the scientific management notion of dividing the task into the manual part of the labor and the mental part of the labor, was something that involved dividing workers into those who would do manual work and those who would do mental work. When you tried to transpose those ideas into households, it was very difficult, especially in situations where there was no household help, because there was only one person who was responsible for doing manual work and mental work both.

00:25:36:09P Nonetheless, there was a tremendous and I think important movement about scientific management in the household, it was important in part, because it involved important people in the scientific management movement, most notably Lilian Gilbrith, who was...herself and with her husband, Frank Gilbrith, one of the big stars of that movement, and she was a big star in talking about factory management as well as in talking about household management. But she was, she wrote a couple of books about household management and about applying

scientific

management principles to household work. So it was in part important because of that, and it was in part important

because

it ended up influencing other kinds of notions about how, how households should be run and influencing in fact the development of the technology. By the 1920's, standardized counters for example, counter heights were, you know, and therefore the production of standardized kitchen counters and kitchen cabinets. And, you know, essentially prefabricated kinds of kitchens, those all were based on notions of scientific management and efficiency and ways of designing the work of the household. That were rooted in the efficiency movement, and like other forms of standardization, they took little count of the differences, between people, if you're short a standard counter still

feels

like a tall counter. If you're tall a standard counter still feels like a short one.

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Antonello: Scientific management of the households, what was Taylor saying about this?

00:27:45:01P Well, there were.... they tried to apply efficiency engineering and scientific management to the household in a no. of different ways. In terms of the work itself, they, they tried to put those principles to work. The design of the space, they had the idea that women should one of the farfetched ideas in one of L.Gilbrith's books was that you should have your small child follow you around the kitchen with a ball of string, so that you could see where you had re-traced your steps. They .....so to some extent that sort of spacial organization of work, was very similar to factory scientific management. They ...the business of trying to separate manual and mental labor involved setting up what they called a business corner in the household, or especially in the kitchen. So that you keep your recipes organized, ideally, these people wanted to keep absolutely everything organized to extreme degrees.

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STRASSER 119A

00:00:39:02P Christine Frederick who was another leader of the scientific management and household movement, and who was very involved in mass marketing. Also, her husband George Frederick was the editor of major advertising trade journals and ultimately, she set up experiment stations in her home, that were, to serve advertisers, to serve marketing. She had the, this whole notion that everything that was bought for the household, not only should there be complete financial records kept, that included essentially double entry bookkeeping, which was sort of overkill for most households, surely. But she also wanted enormous amounts of paperwork done on the products that were bought, she, for example she suggested that when you bought sheets you should label the sheets with indelible marker, and then you would keep a card file on each sheet. Which you would explain on the card where you had bought it and how much you had paid, and then when the sheet wore out, you would be able to see how long that sheet had lasted and you would be able to compare it with a sheet that you had bought somewhere else, and you would know which were the best sheets. So it was the notion of extremely educated, organized consumption and what it was, was the extreme of the seperation of manual and mental labor, this was to be the mental labor of the household, and it was as important in Frederick's notions that women do this mental labor as it was that they do the manual labor. And she explained that you would never do excellent manual labor unless you had had it seperated and did the mental labor as well.



00:02:31:10P The failing of all of these scientific management and household ideas really came down to trying to figure out what women were supposed to do with the time they had saved, what they were supposed to make of themselves instead. Christine Frederick was a very strong believer in women staying at home, and so she was by no means saying that women should save time in the household in order to be able to go out to work in the outside world. Nor was she saying that women should save time in the household in order to be able to go do volunteer work. Her books contain some pretty clear kind of sneers at women who were doing social work at the time, for example. She was saying that, all of the extra time and energy that women might have by doing their housework efficiently they should be putting into the better creation of a better household, which meant more attention to their children, more attention to their husbands. And in essence, that in addition to the two major flaws of a system that was designed for many workers, being applied to one worker, and a system that was designed to profit making being applied to a non profit making situation. It meant that there were so many sort of internal contradictions in this scientific management for the household literature. That in one sense it couldn't ever in its most extreme senses it never went very far. I don't think that there were really very women giving their toddlers balls of string so that they could follow them around the household to see how many steps they could save, if they did it some other way. At the same time, these ideas trickled down to the womens' magazines, the notion of efficiency. Which again, is the notion that is closely tied in a factory situation to profit became an important idea in the household, as it did in the rest of the society at large. And the design of kitchen appliances, the design of counters, the design of houses themselves took these ideas into account.

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STRASSER 119A

Antonello: What were the social implications for women of the introduction of the typewriter?

00:05:17:08P The introduction of the sewing machine was particularly interesting

because it wasn't originally used only for women making clothes for their families, but was a way that women could make money without leaving home. A woman who could afford a sewing machine and....the Singer company made it possible for most women to be able to afford sewing machines by introducing installment plan. It was the technology for which the installment plan was introduced. So a woman who

could

afford to buy a sewing machine on installments could make money by sewing, that was something that she could do without leaving her children with somebody else, she could sew with her children around. It was something that she could do without leaving home, it was something that she could do while still doing the tasks of her own household.

But

she could be making money. Ultimately of course, that those situations were formalized in the putting out system in situations where, where women were using their technology not just to make money for themselves but to make money for capitalists who were giving them work to do. Who were making, organizing the production of clothing, not by setting up factories, although they did also set up factories, but also by organizing production by farming out this work to women who were working at home on their own sewing machines. SO the sewing machine is a, is a piece of domestic technology but it's also a piece of non domestic technology. It's, it was technology that could be used both to do the work of the household made for internal production, and to make money. To give women a way of entering into the world of work without entering into the time constraints of the world of work in factories without entering into the direct boss situation, even in the putting out, in the putting out system. The work was delivered, the work was picked up, but hour by hour, there wasn't a boss standing over the woman as she was working. So it gave women an opportunity to work at home, but work at home for money and that opportunity was still quite different from what was going on for men who were working in factories.

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STRASSER 119A

Antonello: Were women working more than before?

00:08:32:17P Well, I think it was actually longer than that.....

Antonello: Women had to work to pay for the machine.

00:08:57:12P No I don't think it does save time, and what it did do was make it possible for people to have more clothes. People had very few clothes when they were all sewn by hand, and further more the clothes that they had tended to wear out and be mended. People wore clothes with patches, I don't remember it word for word but I found a lovely quote in a newspaper of the 1850's, talking about that what the sewing machine was going to do was make it so that we would be a nation without scar or blemish. Something like that where the writer was saying, you know, it would soon be really unacceptable for people to show up with patched clothing. It would be unacceptable for people to show up with dirty clothing, because people would have so much more clothing because of the sewing machine. And that as of course, turned out to be true.

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STRASSER 119A

Antonello: What about the typewriter?

00:10:27:18P My sense is that it's, that that's a piece of technology that became gender for reasons that have nothing to do with

the technology. There isn't much difference, difference as far as I understand it between what it takes to operate a typewriter and what it takes to operate a lino type machine. And yet, at the same time, women became typewriter operators and men became lino type machine operators, and became almost impossible for women to break into the printing trades and the considerably better pay that was available for running a machine that wasn't so different. And it became humiliating and degrading for a man to operate a typewriter, these aren't technological questions, these are social questions about the organization of offices. And, you know, I think it's a , I think it's a striking example of a piece of technology that appears to be positive, that appears to itself have, have the impact that makes for the gender difference. But that it's not the technology in itself.

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STRASSER 119A

Antonello: What about the change in the concept of time between the south and the north? railroad time, steam boat time

00:12:09:22P ...memory of that quote, itself.....

00:13:05:08PTowns that had railroads were much more oriented towards the market, participation in national life, Talmuth had a railroad was

towards participation in national life. A town that had a rr was more likely to receive a lot of visitors in the form of traveling salesmen. They're were likely to be a lot of representatives of the outside world that came through towns for one reason or another. That came through town demonstrating new goods. That came through town knowing what was going on in the big cities, knowing what was going on in the rest of the world. Knowing what was new, what was important, what was oriented towards the future. And furthermore, those towns were organized around the train, I mean literally, when the train came through town, that was an occasion, that was something that everybody knew, everybody knew what time it was when they heard the train whistle. Not only does the train whistle depend on the time, but the time depends on the train whistle, and in that respect it becomes, that becomes the definition of the structure of the day in a small town, when the, you know, when the railroad comes and becomes the central institution of economic activity for a town like that. The railroad connected one town to the next town, let alone to the big city. It became possible for people to think in terms of going to the next town to buy something, and therefore, to broaden, it became possible for people to broaden their horizons of what they might buy, what they might want. What kind of participation in economic life they might choose to take.

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