

The Material of Male Power

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A skilled craftsman may be no more than a worker in relation to capital, but seen from within the working class he has been a king among men and lord of his household. As a high earner he preferred to see himself as the sole breadwinner, supporter of wife and children. As artisan he defined the unskilled workman as someone of inferior status, and would 'scarcely count him a brother and certainly not an equal' (Berg, 1979: 121). For any socialist movement concerned with unity in the working class, the skilled craftsman is therefore a problem. For anyone concerned with the relationship of class and gender, and with the foundations of male power, skilled men provide a fertile field for study.

Compositors in the printing trade are an artisan group that have long defeated the attempts of capital to weaken the tight grip on the labour process from which their strength derives. Now their occupation is undergoing a dramatic technological change initiated by employers. Introduction of the new computerized technology of photocomposition represents an attack on what remains of their control over their occupation and wipes out many of the aspects of the work which have served as criteria by which 'hot metal' composition for printing has been defined as a manual skill and a man's craft.¹

In this paper I look in some detail at the compositors' crisis, what has given rise to it and what it may lead to in future. Trying to understand it has led me to ask questions in the context of socialist-feminist theory. These I discuss first, as preface to an account of key moments in the compositors' craft history. I then isolate the themes of *skill* and *technology* for further analysis, and conclude with the suggestion that there may be more to male power than 'patriarchal' relations.

Producing Class and Gender

The first difficulty I have encountered in socialist-feminist theory is one that is widely recognized: the problem of bringing into a single focus our experience of both class and gender. Our attempts to ally the Marxist theory of capitalism with the feminist theory of 'patriarchy' have till now been unsatisfactory to us (Hartmann, 1979a).

One of the impediments I believe lies in our tendency to try to mesh together two static structures, two hierarchical systems. In studying compositors I found I was paying attention instead to *processes*, the detail of historical events and changes, and in

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this way it was easier to detect the connexions between the power systems of class and gender. What we are seeing is *struggle that contributes to the formation of people within both their class and gender simultaneously*.

One class can only exist in relation to another. E.P. Thompson wrote 'we cannot have two distinct classes each with an independent being and then bring them into relationship with each other. We cannot have love without lovers, nor deference without squires and labourers.' Likewise, it is clear we cannot have masculinity without femininity: genders presuppose each other, they are relative. Again, classes are made in historical processes. 'The working class did not rise like the sun at an appointed time. It was present at its own making . . . Class is defined by men [sic] as they live their own history' (Thompson, 1963). The mutual production of gender should be seen as a historical process too.

So in this paper I set out to explore aspects of the process of mutual definition in which men and women are locked, and those (equally processes of mutual creation) in which the working class and the capitalist class are historically engaged. Capital and labour, through a struggle over the design and manipulation of technology that the one owns and the other sets in motion, contribute to forming each other in their class characters. Powerfully-organized workers forge their class identity vis-a-vis both capital and the less organized and less skilled in part through this same process. And men and women too are to some extent mutually defined as genders through their relation to the same technology and labour process. In neither case is it a balanced process. By owning the means of production the capitalist class has the initiative. By securing privileged access to capability and technology the man has the initiative. Each gains the power to define 'another' as inferior.² I will try to draw these occurrences out of the story of the composers as I tell it.

Components of Power

The second theoretical need which an examination of skilled workers has led me to feel is the need for a fuller conception of the material basis of male power, one which does not lose sight of its physical and socio-political ramifications in concentrating upon the economic.

As feminism developed its account of women's subordination one problem that we met was that of shifting out of a predominantly ideological mode and narrating also the concrete practices through which women are disadvantaged. Early literature relied on 'sexist attitudes' and 'male chauvinism' to account for women's position. Socialist feminists, seeking a more material explanation for women's disadvantage, used the implement of Marxist theory, unfortunately not purpose-designed for the job but the best that was to hand. The result was an account of the economic advantages to capital of women as a distinct category of labour and their uses as an industrial reserve army. The processes of capitalism seemed to be producing an economic advantage to men which could be seen uniting with their control over women's domestic labour to form the basis of their power.³

Many feminists, however, were dissatisfied with what seemed a narrow 'economism' arising from Marx (or through mis-interpretation of Marx according to the point of view). The ideological vein has been more recently worked with far more sophistication than before, in different ways, by Juliet Mitchell on the one hand and Rosalind Coward on the other (Mitchell, 1975; Coward, 1978). But, as Michèle Barrett has pointed out, while 'ideology is an extremely important site for the construction and reproduction of women's oppression . . . this ideological level cannot be dissociated from economic relations' (Barrett, 1980).

There is thus a kind of to-ing and fro-ing between 'the ideological' and 'the economic', neither of which gives an adequate account of male supremacy or female subordination. The difficulty lies, I believe, in a confusion of terms. The proper complement of *ideology* is not the *economic*, it is the *material*.⁴ And there is more to the material than the economic. It comprises also the *socio-political* and the *physical*, and these are often neglected in Marxist feminist work.

An instance of the problems that arise through this oversight is Christine Delphy's work, where a search for a 'materialist' account of women's subordination leads her to see marriage in purely economic terms and domestic life as a mode of production, an interpretation which cannot deal with a large area of women's circumstances (Delphy, 1977).

It is only by thinking with the additional concepts of the socio-political and the physical that we can begin to look for material instances of male domination beyond men's greater earning power and property advantage. The socio-political opens up questions about male organization and solidarity, the part played by institutions such as church, societies, unions and clubs for instance.⁵ And the physical opens up questions of bodily physique and its extension in technology, of buildings and clothes, space and movement. It allows things that are part of our practice ('reclaiming the night', teaching each other manual skills) a fuller place in our theory.

In this account I want to allow 'the economic' to retire into the background, not to deny its significance but in order to spotlight these other material instances of male power. The socio-political will emerge in the shape of the printing trade unions and their interests and strategies. The physical will also receive special attention because it is that which I have found most difficult to understand in the existing framework of Marxist-feminist thought. It finds expression in the compositor's capability, his dexterity and strength and in his tools and technology.

Physical Effectivity is Acquired

One further prefatory note is needed. In 1970, when Kate Millett and Shulamith Firestone, in their different ways, pinned down and analysed the system of male domination they spoke to the anger that many women felt (Millett, 1971; Firestone 1971). But many feminists were uneasy with the essentialism inherent in their view, and especially the biological determinism of Firestone and its disastrous practical implications.

Marxist-feminist theory has consequently tended to set on one side the concept of the superior physical effectivity of men, to adopt a kind of agnosticism to the idea, on account of a very reasonable fear of that biologism and essentialism which would nullify our struggle. I suggest however that we cannot do without a politics of physical power and that it need not immobilize us. In this article I use the term physical power to mean both corporal effectivity (relative bodily strength and capability) and technical effectivity (relative familiarity with and control over machinery and tools).

To say that most men can undertake feats of physical strength that most women cannot is to tell only the truth. Likewise it is true to say that the majority of men are more in their element with machinery than the majority of women. These statements are neither biologicistic nor essentialist. Physical efficiency and technical capability do not belong to men primarily by birth, though DNA may offer the first step on the ladder. In the main they are appropriated by males through childhood, youth and maturity. Men's socio-political and economic power enables them to do this. In turn, their physical presence reinforces their authority and their physical skills enhance their earning power.

Ann Oakley, among others, has made the fruitful distinction between biologically-given sex (and that not always unambiguous) and culturally constituted gender, which need have little correlation with sex but in our society takes the form of a dramatic and hierarchical separation (Oakley, 1972).

The part of education and that of child-rearing in constituting us as masculine and feminine *in ideology* is the subject of an extensive literature (eg. Wolpe, 1978; Belotti, 1975). But there is evidence to show that *bodily difference* is also largely a social product. With time and work women athletes can acquire a physique which eclipses the innate differences between males and females (Ferris, 1978). Height and weight are correlated with class, produced by different standards of living, as well as with gender.⁶ Boys are conditioned from childhood in numberless ways to be more physically effective than girls. They are trained in activities that develop muscle, they are taught to place their weight firmly on both feet, to move freely, to use their bodies with authority. With regard to females they are socialized to seize or shelter them and led to expect them in turn to yield or submit.

While so much of the imbalance of bodily effectiveness between males and females is produced through social practices it is misguided to prioritize that component of the difference that may prove in the last resort to be inborn.⁷ More important is to study the way in which a small physical *difference* in size, strength and reproductive function is developed into an increasing relative physical *advantage* to men and vastly multiplied by differential access to technology. The process, as I will show, involves several converging practices: accumulation of bodily capabilities, the definition of tasks to match them and the selective design of tools and machines. The male physical advantage of course interacts with male economic and socio-political advantage in mutual enhancement.

The appropriation of muscle, capability, tools and machinery by men is an important source of women's subordination, indeed it is part of the process by which females are constituted as women. It is a process that is in some ways an analogue of the appropriation of the means of production by a capitalist class, which thereby constituted its complementary working class. In certain situations and instances, as in the history of printers, the process of physical appropriation (along with its ideological practices) has a part in constituting people within their class and gender simultaneously.

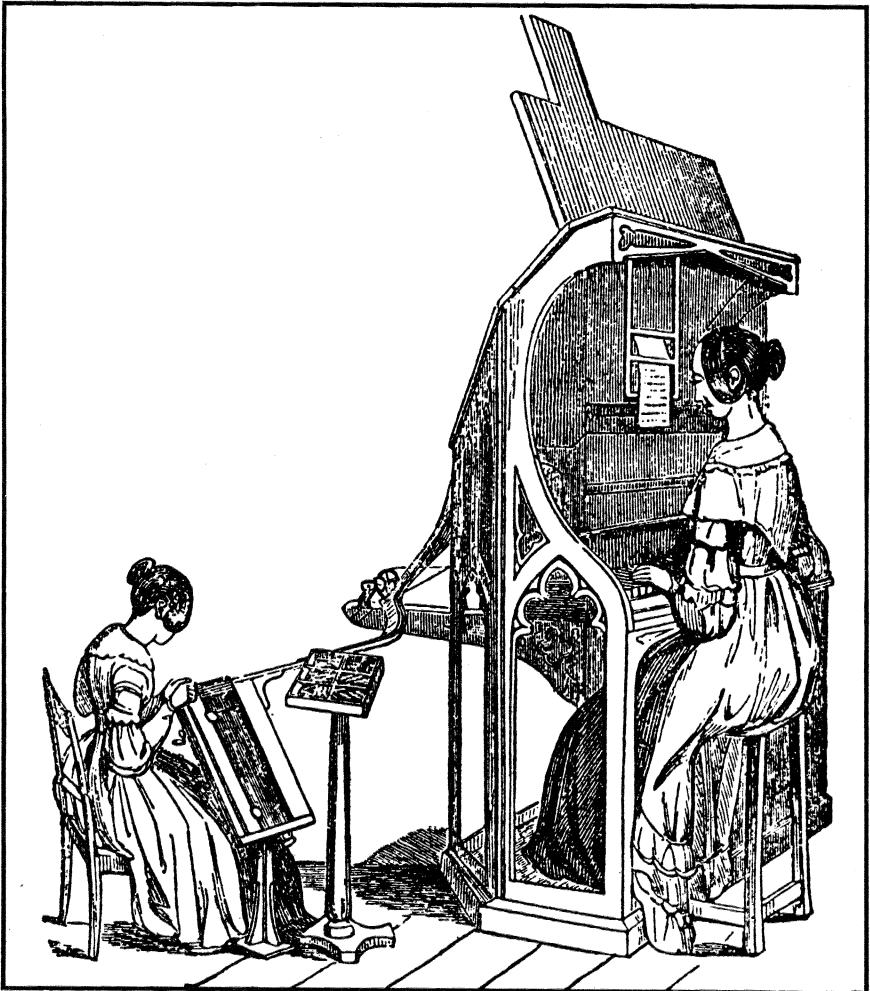
The Hand Compositor: Appropriation of Technique

Letterpress printing comprises two distinct technological processes, composing and printing. Before the mechanization of typesetting in the last decade of the nineteenth century compositors set the type by hand, organizing metal pieces in a 'stick', and proceeded to assemble it into a unified printing surface, the 'forme', ready for the printer to position on the press, coat with ink and impress upon paper.

The hand compositor, then, had to be literate, to be able to read type upside down and back to front, with a sharp eye for detail. He had to possess manual dexterity and have an easy familiarity with the position of letters in the 'case'. He had to calculate with the printers' 'point' system of measurement. Furthermore he had to have a sense of design and spacing to enable him to create a graphic whole of the printed page, which he secured through the manipulation of the assembled type, illustrative blocks and lead spacing pieces. The whole he then locked up in a forme weighing 50lbs or more. This he would lift and move to the proofing press or bring back to the stone for the distribution of used type. He thus required a degree of strength and stamina, a strong wrist, and, for standing long hours at the case, a sturdy spine and good legs.

The compositor used his craft to secure for himself a well-paid living, with sometimes greater and sometimes less success depending on conditions of trade. Through their trade societies (later unions) compositors energetically sought to limit the right of access to the composing process and its equipment to members of the society in a given town or region, blacking 'unfair houses' that employed non-society men.

Comps deployed all the material and ideological tactics they could muster in resistance to the initiatives of capital in a context of the gradual, though late, industrialization of printing. Capitalists continually aimed for lower labour costs, more productive labour processes, the 'real subordination' of labour. Their two weapons were the mobilization of cheap labour and the introduction of machinery. They repeatedly assaulted the defences of the comps' trade societies. The organized, skilled men saw their best protection against capital to lie in sharply differentiating themselves from the all-but-limitless population of potential rivals for their jobs, the remainder of the working class.



The Young-Delcambre composing machine. The girl on the left is justifying the lines

They sought to control the numbers entering the trade and so to elevate their wage-bargaining position by a system of formal apprenticeship. They tried to limit the number of apprentices through an agreed ratio of boys to journeymen and to keep the period of apprenticeship as long as possible. The introduction of unapprenticed lads, 'the many-headed monster', the 'demon of cheap boy labour' was always a source of fear to compositors. Comps' jobs were kept within the class fraction by the custom of limiting openings wherever possible to members of existing printer families.

Thus the struggles over physical and mental capability and the right of access to composing equipment was one of the processes in which fractions of classes were formed in relation to each other.

How did women enter this story? The answer is, with difficulty. Women and children were drawn into industrial production in many industries in the first half of the nineteenth century but in printing their entry was almost entirely limited to the bookbinding and other low-paid finishing operations held to require no skill. Girls were not considered suitable for apprenticeship. Physical and moral factors (girls were not strong enough, lead was harmful to pregnancy, the social environment might be corrupting) were deployed ideologically in such a way that few girls would see themselves as suitable candidates for apprenticeship. A second line of defence against an influx of women was of course the same socio-political controls used to keep large numbers of boys of the unskilled working class from flooding the trade.

Women who, in spite of these barriers, obtained work as non-society compositors were bitterly resisted and their product 'blackened' by the society men, i.e. work typeset by women could not be printed. Their number remained few therefore (Child, 1967). After 1859 a few small print shops were organized by philanthropic feminists to provide openings for women. It is worth noting that these enterprises did prove that women were in fact physically capable, given training and practice, of typesetting and imposition, though they did not work night shifts and male assistants were engaged to do the heavy lifting and carrying. These projects were dismissed by the men as 'wild schemes of social reformers and cranks'.⁸

The process of appropriation of the physical and mental properties and technical hardware required for composing by a group of men, therefore, was not only a capitalist process of class formation, as noted above, but also a significant influence in the process of gender construction in which men took the initiative in constituting themselves and women in a relation of complementarity and hierarchy.

The Mechanization of Typesetting: Appropriation of the Machine

The compositors' employers had for years sought to invent a machine that could bypass the labour-intensive process of hand typesetting. They hoped in so doing not only to speed up the process but to evade the trade societies' grip on the craft, introduce women and boys and thus bring down the adult male wage. The design of such a machine proved an intractable problem. Though various prototypes and one or two production models were essayed in the years following 1840, none were commercially successful. It was only when highspeed rotary press technology developed in the 1880s that typesetting became an intolerable bottleneck to printing and more serious technological experiment was undertaken. Among the various typesetting machines that then developed, the overwhelmingly successful model was the Linotype. It continued in use almost unchanged for sixty or seventy years.

The Linotype was not allowed to replace the hand typesetter without a struggle.⁹ The men believed the Iron Comp would mean mass unemployment of society

members. They did not (as an organized group) reject the machine out of hand, however. Their demand was the absolute, exclusive right of hand comps to the machine and to improved earnings. Their weapons were disruption, blacking and deliberate restriction of keyboard speeds. The outcome of the struggle was seen finally by both print employers and compositors as a moderate victory for both sides. There was unemployment of hand compositors for a few years in the mid-nineties, but with the upturn of business at the end of the Great Depression the demand for print grew fast and the demand for typesetters with it. Indeed, the first agreement between the London Society of Compositors (LSC) and the employers on the adaptation of the London Scale of Prices to Linotype production was a disastrous error for the capitalists, who had under-estimated the productive capacity of their new force of production and over-estimated the strength of the organized comps. The bosses only began to share fully in the profits from their invention when the agreement was revised in 1896. A lasting cost to the comps was an increasing division of labour between the two halves of their occupation: typesetting and the subsequent composing process. They did succeed however in continuing to encompass both jobs within the unitary craft and its apprenticeship as defined by their societies.

Those who really lost in the battle scarcely even engaged in it. They were the mass of labour, men and women who had no indentured occupation and who, if organized at all, were grouped in the new general unions of the unskilled. Jonathan Zeitlin firmly ascribes the success of the compositors (in contrast to engineers) in routing the employers' attempt to break their control of their craft in the technological thrust of the late nineteenth century to the former's success in ensuring that during the preceding decades no unskilled or semi-skilled categories of worker had been allowed to enter the composing room to fill subordinate roles (Zeitlin, 1981). And the incipient threat from women had been largely averted by the time the Linotype was invented. An exception was a pocket of female compositors in Edinburgh who had entered the trade at the time of a strike by the men in 1872 and had proved impossible to uproot.

A more sustained attempt was made by employers ten years later to introduce women to work on another typesetting process that was widely applied in the book trade: the Monotype. The Monotype Corporation, designers of the machine, in contrast to the Linotype Company Ltd., opened the way to a possible outflanking of the skilled men by splitting the tasks of keyboarding and casting into two different machines. Men retained unshaken control of the caster, but an attempt was made by employers to introduce women onto the keyboards, which had the normal typewriter lay.

In 1909-10 the compositors' societies organized a campaign, focussing on Edinburgh, to eliminate women from the trade once and for all. They succeeded in achieving a ban on female apprentices and an agreement for natural wastage of women comps and operators. This male victory was partly due to an alliance between the craft compositors and the newly organized unions of the unskilled men in the printing industry (Zeitlin, 1981).

That there were large numbers of women, literate, in need of work and eminently capable of machine typesetting at this time is evidenced by the rapid feminization of clerical work that accompanied the introduction of the office typewriter, in a situation where the male incumbent of the office was less well organized to defend himself than was the compositor (Davies, 1979). Men's socio-political power, however, enabled them to extend their physical capabilities in manual typesetting to control of the machine that replaced it. (The gender-bias of typesetting technology is discussed further below.) The effect has been that women's participation in composing work, the prestigious and better-paid aspect of printing, was kept to a minimum until the

present day, not excluding the period of the two World Wars. The composing room was, and in most cases still is, an all-male preserve with a sense of camaraderie, pin-ups on the wall and a pleasure taken in the manly licence to use 'bad' (i.e. woman-objectifying) language.

Electronic Composition: the Disruption of Class and Gender Patterns

In the half-century between 1910 and 1960 the printing industry saw relatively little technical change. Then, in the nineteen-sixties two big new possibilities opened up for capital in the printing industry as, emerging from post-war restrictions, it looked optimistically to expanding print markets. The first was web offset printing, with its potential flexibility and quality combined with high running speeds. The logical corollary was to abandon the machine-setting of metal type and to take up the second component of 'the new technology': letter assembly on film or photographic paper by the techniques of computer-aided photocomposition. The new process began to make inroads in to the British printing industry in the late sixties and swept through the provincial press and general printing in the seventies. The last serious redoubt of hot metal typesetting and letterpress printing is now the national press in Fleet Street.

Photocomposition itself has gone through several phases of development. At first, the operation comprised a keyboarding process whereby the operator tapped a typewriter-style keyboard producing a punched paper tape. The operator worked 'blind', that is to say he saw no hard copy of his work as he produced it. The 'idiot tape' was fed into a computer which read it, made the subtle line-end decisions formerly the responsibility of the operator and output clean tape. This second tape drove a photosetter, each impulse producing a timed flash of light through a photographic image on a master disc or drum. The result was a succession of characters laid down on film or bromide paper. The columns of text were taken by the compositor, cut up, sorted and pasted in position on a prepared card, later to be photographed as a whole and reproduced on a printing plate.

In the latest electronic composing technology there is no such photomatrix of characters. The computer itself holds instructions that enable it to generate characters, in an almost limitless range of type faces and sizes and at enormously rapid speeds, on the face of a cathode ray tube. The inputting operation is performed with a keyboard associated with a video display unit on which the operator can assist computer decisions and 'massage' the copy into a desired order before committing it to the computer memory. The matter is transmitted direct from computer to photosetter and may now be produced in complete sections as large as a full newspaper page, making paste-up unnecessary.

The process is clearly seen by capital as a means of smashing the costly craft control of the compositor. The system is greatly more productive and requires less manpower. It would require less still if operated in the manner for which it is designed, i.e. avoiding two keyboarding processes by having typists, journalists, editors and authors key matter direct onto the computer disc for editing on screen and thence to direct output.

The work is much lighter, more sedentary. The abilities called upon are less esoteric, more generally available in the working population outside print. Inputting requires little more than good typing ability on the QWERTY board, something possessed by many more women than men. The implications for compositors of this twist in their craft history are dramatic. Combined with a recession it is causing unemployment in the trade, something unknown since the thirties. The individual

tasks in the overall process have become trivialized and the men feel the danger of increased sub-division, routinization and substitution of unskilled workers.

The union response has not been to reject the new technology. Instead it has fought an energetic battle to retain the right to the new equipment as it did to the old. It resists 'direct input' by outsiders, asserts exclusive right to the photosetting keystroke (if necessary to a redundant second typing), to paste-up and the control of the photosetters, and where possible the computers. It is demanding increased pay and reduced hours in exchange for agreement to operate the new technology. And it is insisting (in principle at least) that all composing personnel get the chance to retrain for all aspects of the *whole* photocomposing job . . . an uphill struggle for re-integration of the now transformed craft.

Skill and Its Uses

An extensive literature has demonstrated the effect of craft organization on the structure of the working class. 'The artisan creed with regard to the labourers is that the latter are an inferior class and that they should be made to know and kept in their place' (Hobsbawm, 1964). The loss of demands on manual skill brought about by electronic photocomposition does not necessarily mean the job has become more 'mental'. On the contrary, present-day compositors feel their new work could be done by relatively unskilled workers. Many members feel they have lost status and some resent the strategic necessity to seek amalgamation of the National Graphical Association (NGA) with the unions representing the less skilled.

Our account shows however, that the purposeful differentiation between skilled and unskilled workers was also a step in the construction of *gender*. This is a more recent conception. Heidi Hartmann has suggested that 'the roots of women's present social status' lie in job segregation by sex and demonstrates the role of men and their unions in maintaining women's inferiority in the labour market by deployment of skill (Hartmann, 1979b). The fact that females in the closed-shop NGA (which embodies a large proportion of the better paid workers in the printing industry) until recently amounted to no more than 2% of its membership is directly connected with the fact that women's average earnings have always been lower relative to men's in printing than in manufacturing occupations as a whole. Through the mechanisms of craft definition women have been constructed as relatively lacking in competence, and relatively low in earning power. Women's work came to be seen as inferior. Now that the new composing process resembles 'women's work' stereotypes it is felt as emasculating. The skill crisis is a crisis of both gender and class for comps.

Anne Phillips and Barbara Taylor propose that skill is a direct correlate of sexual power. 'Skill has increasingly been defined against women . . . far from being an objective economic fact, skill is often an ideological category imposed on certain types of work by virtue of the sex and power of the workers who perform it' (Phillips and Taylor, 1980).

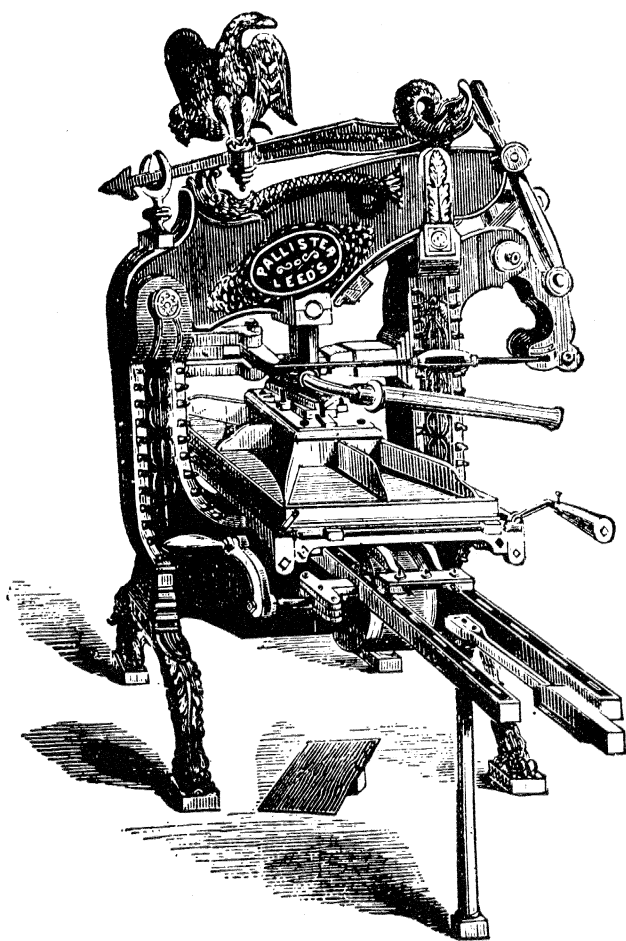
It is important to recognize this ideological factor. It has become increasingly important in printing with the advance of technology. The compositor sitting at a keyboard setting type is represented as doing skilled work. A girl typist at a desk typing a letter is not – though the practical difference today is slight. Nonetheless, the formulation here again, posing the ideological as foil to the economic, leads to an under-emphasis on the material realities (albeit socially acquired) of physical power and with them the tangible factors in skill which it is my purpose to reassert.

Phillips and Taylor cite several instances of job definition where the distinction between male and female jobs as skilled and unskilled is clearly no more than

ideological. But in printing, and perhaps in many other occupations too, unless we recognize what measure of reality lies behind the male customary over-estimate of his skill we have no way of evaluating the impact of electronic photocomposition, the leeching out of the tangible factors of skill from some tasks and their relocation in others, out of the compositor's reach.

What was the hot metal compositor's skill? He would say: I can read and calculate in a specialized manner; I can understand the process and make decisions about the job; I have aesthetic sense; I know what the tools are for and how to use them; I know the sequence of tasks in the labour process; how to operate, clean and maintain the machinery; I am dexterous and can work fast and accurately under pressure, can lift heavy weights and stand for hours without tiring. No-one but an apprenticed compositor can do ALL these things.

There are thus what we might call tangible factors in skill – things that cannot be acquired overnight. They are both intellectual and physical and among the physical are knack, strength and intimacy with a technology. They are all in large measure learned or acquired through practice, though some apprentices will never make good craftsmen. The relative importance of the factors shifts over time with changing technology. Skill is a changing constellation of practical abilities of which no single one



A 19th century iron band press

is either necessary or sufficient. Cut away the need for one or two of them and the skill may still be capable of adaptation to remain intact, marketable and capable of defence by socio-political organization.

The tangible factors in skill may be over-stated for purposes of self defence and are variably deployed in socio-political struggle. Thus, against the unskilled male, defined as corporally superior to the skilled, hot metal comps have defended their craft in terms of (a) its intellectual and (b) its dexterity requirements. Against women, with their supposed superior dexterity, the skilled men on the contrary used to invoke (a) the heavy bodily demands of the work and (b) the intellectual standards it was supposed to require.¹⁰ (Among comps today it is sometimes done to keep a list of the 'howlers' they detect in the typescripts coming to them from the 'illiterate' typists upstairs.)

The bodily strength component of the compositor's craft may be isolated to illustrate the politics involved. Men, having been reared to a bodily advantage, are able to make political and economic use of it by defining into their occupation certain tasks that require the muscle they alone possess, thereby barricading it against women who might be used against them as low-cost alternative workers (and whom for other reasons they may prefer to remain in the home). In composing, the lifting and carrying of the forme is a case in point. Nonetheless, many compositors found this aspect of the work heavy and it was felt to be beyond the strength of older men. They were always torn between wishing for unskilled muscular assistants and fearing that these, once ensconced in part of the job might lay claim to the whole.

The size and weight of the forme is arbitrary. Printing presses and the printed sheet too could have been smaller. And heavy as it is, the mechanization exists which could ease the task. It is, in printing, purely a question of custom at what weight the use of hoists and trolleys to transport the forme is introduced.

Units of work (hay bales, cement sacks) are political in their design. Capitalists with work-study in mind and men with an interest in the male right to the job both have a live concern in the bargain struck over a standard weight or size. But the political power to design work processes would be useless to men without a significant average superiority in strength or other bodily capability. Thus the appropriation of bodily effectivity on the one hand and the design of machinery and processes on the other have often converged in such a way as to constitute men as capable and women as inadequate. Like other physical differences, gender difference in average bodily strength is not illusory, it is real. It does not necessarily matter, but it can be made to matter. Its manipulation is socio-political power play.

Above everything, a skill embodies the idea of wholeness in the job and in the person's abilities, and what this 'whole' comprises is the subject of a three-way struggle between capital, craftsman and the unskilled. The struggle is over the division of labour, the building of some capabilities into machines (the computer, the robot), the hiving off of some less taxing parts of the job to cheaper workmen, or to women. Craft organization responds to capitalist development by continually redefining its area of competence, taking in and teaching its members new abilities. Wholeness has become of key significance to the compositors' union as electronic technology has trivialized and shifted the pattern of the individual tasks. Socio-political organization and power has become of paramount importance as the old tangible physical and intellectual factors have been scrapped along with the old hardware.

Control of Technology

Capitalists as capitalists and men as men both take initiatives over technology. The

capitalist class designs new technology, in the sense that it commissions and finances machinery and sets it to work to reduce the capitalist's dependency on certain categories of labour, to divide, disorganize and cheapen labour. Sometimes machinery displaces knack and know-how, sometimes strength. Yet it is often the knowledge of the workers gained on an earlier phase of technology that produces the improvements and innovations that eventually supercede it. For instance, in a radical working men's paper in 1833, claiming rights over the bosses' machines, the men say: '*Question*: Who are the inventors of machinery? *Answer*: Almost universally the working man' (Berg, 1979: 90).

In either case, it is overwhelmingly males who design technological processes and productive machinery. Many women have observed that mechanical equipment is manufactured and assembled in ways that make it just too big or too heavy for the 'average' woman to use. This need not be conspiracy, it is merely the outcome of a pre-existing pattern of power. It is a complex point. Women vary in bodily strength and size; they also vary in orientation, some having learned more confidence and more capability than others. Many processes could be carried out with machines designed to suit smaller or less muscular operators or reorganized so as to come within reach of the 'average' woman.

There are many mechanized production processes in which women are employed. But there is a sense in which women who operate machinery, from the nineteenth-century cotton spindles to the modern typewriter, are only 'lent' it by men, as men are only 'lent' it by capital. Working-class men are threatened by the machines with which capital seeks to replace them. But as and when the machines prevail it is men's hands that control them. Comps now have twice adopted new technology, albeit with bad grace, on the strict condition that it remain under their own control. They necessarily engage in a class gamble (how many jobs will be lost? will wages fall?) but their sexual standing is not jeopardized.

The history of mechanized typesetting offers an instance of clear sex-bias within the design of equipment. The Linotype manufacturing company has twice now, in contrast to its competitors, adopted a policy that is curiously beneficial to men. A nineteenth century rival to the Linotype was the Hattersley typesetter. It had a separate mechanism for distributing type, designed for use by girls. The separation of the setting (skilled) from dising (unskilled) was devised as a means of reducing overall labour costs. A representative of the Hattersley company wrote 'it would be a prostitution of the object for which the machine was invented and a proceeding against which we would protest at all times' to employ *men* on the disser (Typographical Association, 1893).

The Linotype machine on the other hand did not represent the destruction but merely the mechanization of the comp's setting skills as a *whole*. In fact, the LSC congratulated the Linotype Company Ltd. 'The Linotype answers to one of the essential conditions of trade unionism, in that it does not depend for its success on the employment of boy or girl labour; but on the contrary, appears to offer the opportunity for establishing an arrangement whereby it may be fairly and honestly worked to the advantage of employer, inventor and workman' (Typographical Association, 1893). While Linotype were not above using male scab trainees when driven to it by the comps' ca'canny, they never tried to put women on the machines and indeed curried favour with the LSC by encouraging employers who purchased the machine to shed female typesetters and replace them with union men.

Ninety years on, Linotype (now Linotype-Paul) are leading designers and marketers of electronic composing systems. Most present day manufacturers, with an eye to the hundreds of thousands of low-paid female typists their clients may profit from installing at the new keyboards, have designed them with the typewriter QWERTY lay,

thus reducing Lino operators at a single blow to fumbling incompetence. Linotype Paul is one of the few firms offering an optional alternative keyboard, the 90-key lay familiar to union comps. Once more, they seem to be wooing the organized comp as man and in doing so are playing, perhaps, an ambivalent part in the class struggle being acted out between print employers, craftsmen and unskilled labour (since employers would profit more by the complete abolition of the 90-key board).

Now, electronic photocomposition is an almost motionless labour process. The greatest physical exertion is the press of a key. The equipment is more or less a 'black box'. The intelligence lies between the designers, maintenance engineers and programmers and the computer and its peripherals. Only the simplest routine processes and minimal decisions are left to the operator.

Two factors emerge. It is significant that the great majority of the electronic technical stratum are male (as history would lead us to expect). Male power deriving from prestigious jobs has shifted up-process leaving the compositor somewhat high and dry, vulnerable to the unskilled and particularly to women. In so far as he operates this machinery he has a 'female' relationship to it: he is 'lent' it by men who know more about its technicalities than he does.

The NGA, faced with a severe threat to composing as a craft, has been forced into innovatory manoeuvres in order to survive as a union. It is widening its scope, radically re-designing and generalizing its apprenticeship requirements, turning a blind eye to the fact that some of the new style comps it recruits 'on the job' come in without apprenticeships (and a handful of these are now women who have graduated from typing to simple composers). It is seeking to recruit office workers, a proportion of whom will be female typists who are seen as a weapon employers may try to use



The Victoria Press in Great Coram Street London, for the employment of women compositors, 1861

against comps. They are to be organized in separate division within the union and thus will be under supervision by the union but not permitted to invade the area of existing comps' work.

Conclusion: Men's Power and Patriarchy

This study has been of the workplace. Marxist theory proposed the workplace as the primary locus of capitalist exploitation, while women's disadvantage was seen as having its site in the property relations of the family. The corollary of this view was the belief (disproved by the passing of time) that women would evade their subordination to men when they came out into waged work (Engels, 1972). Feminists have shown on the contrary that the family, as the throne of 'patriarchy', has its own malevolent effectivity within capitalism and capitalist relations, it pursues women out into waged work (Kuhn, 1978; Bland, 1978).

Many women, however, are relatively detached from conjugal or paternal relationships. Many are single, childless, widowed, live independently, collectively, without husbands, free from fathers. Can 'the family' satisfactorily account today for the fact that they hesitate to go to the cinema alone, have to call on a man to change a car wheel, or feel put out of countenance by walking into a pub or across a composing room floor? Our theories of sexual division of labour at work have tended to be an immaculate conception unsullied by these physical intrusions. They read: women fill certain inferior places provided by capitalism, but do so in a way for which they are destined by the shackles of family life. The free-standing woman, the physical reality of men, their muscle or initiative, the way they wield a spanner or the spanner they wield, these things have been diminished in our account.

The story of compositors, for me, throws doubt on the adequacy of the explanation that the sexual relations of work can be fully accounted for as a shadow cast by the sex-relations of the family. It seems to me that the construction of gender difference and hierarchy is created at work as well as at home – and that the effect on women (less physical and technical capability, lack of confidence, lower pay) may well cast a shadow on the sex-relations of domestic life.

In socialist-feminist thought there has been a clear divide between production (privileged site of class domination) and the family (privileged site of sexual domination). The patriarchal family is recognized as adapted to the interests of capital and the capitalist division of labour as being imprinted with the patterns of domestic life. They are conceded to be mutually effective, but are nonetheless still largely conceived as two separate spheres, capitalism holding sway in one, patriarchy in the other.

Yet the compositors' story reveals a definable area of sex-gender relations that cannot be fully subsumed into 'the family', an area which has tended to be a blindspot for socialist-feminist theory. It is the same as that spot within the class relations of wage labour and capitalist production, invisible to Marxist theory, in which male power is deployed in the interests of men – capital apart.

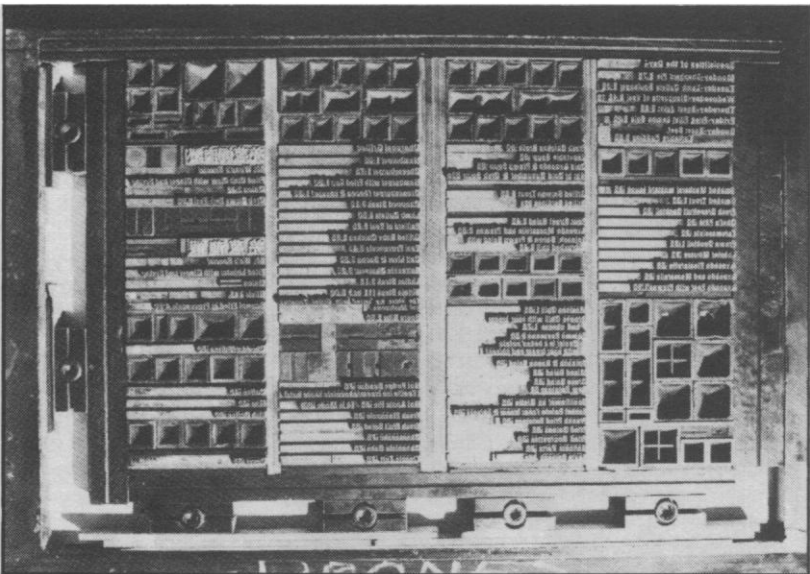
In our analysis we can accommodate men as 'patriarchs', as fathers or husbands, and we can accommodate capitalists and workers who are frequently men. But where is the man as male, the man who fills those spaces in capitalist production that he has defined as not ours, who designs the machines and thereby decides who will use them? Where is the man who decorates the walls of his workplace with pin-ups of naked women and whose presence on the street is a factor in a woman's decision whether to work the night shift?

It was an incalculable breakthrough in the late sixties when the sexual relations of private life came to be more generally recognized as political. But somehow those sexual relations have remained ghettoized within the the family. Only slowly are we demolishing the second wall, to reveal in theory what we know in practice, that the gender relations of work and public life, of the factory and the street, are sexual politics too.¹¹

It is in this sense that the prevailing use of the concept of 'patriarchy' seems to me a problem. Some feminists have argued, I think rightly, that it is too specific an expression to describe the very diffuse and changing forms of male domination that we experience, and that it should be reserved for specific situations where society is organized through the authority of fathers and husbands over wives and offspring and of older men over younger men (Young and Harris, 1976).

Such a 'patriarchy' would usefully enable us, for instance, to characterize certain historical relations in the printing industry: the archaic paternalism of journeyman-apprentice relations, the handing of job from father to son, the role of the 'father' of chapel in the union etc. But these practices are changing in printing – just as Jane Barker and Hazel Downing have shown that patriarchal relations of control in the office are being rendered obsolete by the new capitalist office technology (Barker and Downing, 1980).

Do we then assume that male supremacy is on the wane in the workplace? I think not. The gap between women's earnings and men's in printing has widened in the last few years. What we are seeing in the struggle over the electronic office and printing technology is a series of transformations within gender relations and their articulation with class relations. The class relations are those of capitalism. The gender relations are those of a wider, more pervasive and more long-lived male dominance system than patriarchy. They are those of a sex-gender system¹² in which men dominate women inside and outside family relations, inside and outside economic production, by means which are both material and ideological, exercising their authority through both individual and organizational development. It is more nearly andrarchy¹³ than patriarchy.



A made up forme

Finally, in what practical sense do these questions matter to women? Seeing bodily strength and capability as being socially constructed and politically deployed helps us as an organized group in that we can fight for the right to strengths and skills that we feel to be useful. On the other hand, where we do not see this kind of power as socially beneficial, our struggle can seek to devalue it by socio-political means in the interests of a gentler world (or to prevent our being disadvantaged by what may turn out to be our few remaining innate differences).

Identifying the gendered character of technology enables us to overcome our feelings of inferiority about technical matters and realise that our disqualification is the result not of our own inadequacy, nor of chance, but of power-play. Understanding technology as an implement in capital's struggle to break down workers' residual control of the labour process helps us to avoid feeling 'anti-progress' if and when we need to resist it. Understanding it as male enables us to make a critique of the exploitation of technology for purposes of power by men – both over women and over each other, in competition, aggression, militarism.

Unless we recognize what capital is taking away from some men as workers, we cannot predict the strategies by which they may seek to protect their position as men. As one technology fails them will they seek to establish a power base in another? Will they eventually abandon the de-skilled manual work to women, recreating the job segregation that serves male dominance? Or will the intrinsic interdependency of keyboard and computer force a re-gendering of 'typing' so that it is no longer portrayed as female? As men's physical pre-eminence in some kinds of work is diminished will they seek to reassert it heavily in private life? Or is the importance of physical effectivity genuinely diminishing in the power relations of gender? Can the unions, so long a socio-political tool of men, be made to serve women? We need to understand all the processes that form us as workers and as women if we are to exert our will within them.

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Notes

- 1 The article is based on a project in progress, 'Skilled printing workers and technological change', funded by the Social Science Research Council and carried out at The City University, London. The paper was first given at the annual conference of the British Sociological Association in 1981.
- 2 The fact that a mode of production and a sex-gender system are two fundamental and parallel features of the organization of human societies should not lead us to expect to find any exact comparability between them, whether the duo is capitalism/'patriarchy' or any other. In the case of a sex-gender system there is a biological factor that is strongly, though not absolutely, predisposing. This is not the case in a class system. The historical timescale of modes of production appears to be shorter than that of sex-gender systems. And the socio-political and economic institutions of class seem to be more formal and visible than those of gender – though one can imagine societies where this might not be the case.
- 3 Michèle Barrett's recent book reviews in detail the progress of this endeavour (Barrett, 1980). An important contribution to the 'appropriation of patriarchy by materialism' has been Kuhn and Wolpe (1978).
- 4 I adopt here Michèle Barrett's useful re-assertion of the distinction between ideology and 'the material', in place of a simplistic fusion 'ideology is material'. She cites Terry Eagleton, 'there is no possible sense in which meanings and values can be said to be 'material', other

than in the most sloppily metaphorical use of the term . . . If meanings *are* material, then the term 'materialism' naturally ceases to be intelligible' (Barrett, 1980: 89-90).

- 5 Heidi Hartmann's definition of patriarchy is novel in including 'hierarchical relations between men and *solidarity among them*' (Hartmann, 1979b).
- 6 For instance, children whose families' low income entitles them to free school milk are shorter than the average child (demonstrated in articles in *The Lancet*. 1979). More information relating class and stature should be available from Department of Health and Social Security 'Heights and Weights Survey' to be published 1982.
- 7 Griffiths and Saraga (1979) have argued the same of sex difference in cognitive ability.
- 8 A fuller account exists in Cynthia Cockburn (1980) 'The losing battle: women's attempts to enter composing work 1850-1914', Working Note No. 11, unpublished.
- 9 I have traced the course of this technological development in 'The Iron Comp: the mechanization of composing', Working Note, No. 10, 1980, unpublished.
- 10 For an interesting discussion of 'dexterity' versus 'skill' in relation to gender see Ramsay Macdonald (1904).
- 11 A sign of change in this direction was Farley (1980), concerning sexual harassment of women at work.
- 12 Gayle Rubin's term (Rubin, 1975).
- 13 Rule by *men* as opposed to rule by fathers or male heads of household or tribe, cf. androgynous, polyandry, andro-centrism.

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