

Men, Women, Technology, and Teaching

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Although the custom of differentiating between sex as a biological category and *gender* as a socially generated category has hardly had time to become a widespread cultural institution, it is currently already subject to some question among scholarly feminists. There are some plausible reasons for demur, but we should proceed cautiously. The confusion lies not so much in the sex-gender distinction, it roots rather in the fairly reckless eagerness to take findings from one category and apply them to the other: We find biological facts being used to explain social and cultural behaviour and widely accepted theories about social behaviour being applied to facts of nature.

Once again it has become fashionable to decry equality theory and to favour a theory of difference which holds – if we unabashedly may quote Aristotle - that «male and female is already predetermined, before whatever characterizes a kind is settled.»¹

On the one hand, no one denies that biological theories, like all theories and knowledge in general, are socially designed, nor that not only social reality, but reality in general is a construct, though not in the sense heralded by hardcore idealism: Under the condition that in principle all access to reality is of a constructive nature, reality itself is a construct. For all the properties that a noumenon may or may not have, it lacks fascination. It is equally uncontroversial that no theorizing is a purely descriptive enterprise and that it involves values and preferences to a considerable degree. Simultaneously, freedom of prejudice, while it can only be a normative postulate, is a worthwhile ideal, despite the basic value-laden character of all concepts and theories. It is important to aim for neutrality because doing so demonstrates time and again the extent to which interests are at work on all levels of knowledge acquisition and insight: Interests reflect not only personal or institutional values and preferences, interests can also be defined as it were as biologically determined functional capacities of our sense organs and the brain – interests in the sense of satisfying existential needs of the most basic kind, from increasing pleasure and avoiding pain, down to satisfying intellectual curiosity in highly complex societies exhibiting task division. In these (and other)

¹ Aristotle, Creation of Beings

circumstances what we need is to develop a useful and – in a way – realistic model that represents the differences of the sexes, one that goes beyond ideological androcentric or feminist dogmas, while keeping the useful relation of both equality theory and difference theory in mind; this means that among other tasks, we are well advised to detect false conclusions and mistakes.

Not only our language, but many other tongues as well (most likely all of them, but this lacks proof) have expressions for MALE and FEMALE. They are predicate expressions and in one sense predicates have one single function: to be attributed or not to individual things or subjects or substances. Our interest here, however, is not to philosophize as grammarians – therefore: We are concerned here with a conceptual, not a linguistic distinction – although the contours can get shady. May I also add: The dichotomy in question between MALE and FEMALE should not be understood as a claim that the concept of dual sexes is necessary for practical reasons; the point is merely that biological sex provides a very basic pattern for discrimination.

Now, some predicates – including those of *male* and *female* exhibit a certain peculiarity. Not only are they attributed, but when they are attributed, they seem to carry along excess meaning. «The table is white» means that this table, here, is white. Period. And to ward off an objection immediately: For me this holds no contradiction to a speech act analysis. That, within a certain context, by saying «the table is white» I may be *implying* «please place a coaster under your glass of red wine» is permissible. What is decisive is that the propositional content of «the table is white» is simply the factual whiteness of the table. However, the utterance «X is female» opens a mental file in a hearer, a mental file containing – depending on one's socialization - attributes such as «physically weak», «limited powers of reasoning», «emotional», «gentle», etc. This habit of attribution is hardly disastrous, it is fairly normal and common, it is often very practical and it is probably mostly wrong. In contrast to those of the expression «white», here a surprising number of connotations get a free ride, as it were – independent of context, without it being explicit that these are *merely* connotations. Certain stereotypes are so solidly linked to this term (and its male counterpart) that they partially have become «real» components of its meaning. One is tempted to claim that the expressions *male* and *female* possess extraordinary powers of explanation and prognosis: Why is Hilary a poor driver? – Because she is a woman. Hilary is an aggressive poker player, because he is a man.

This brings me to my thesis: Independently of whether they are gained from a pre-scientific construct guided by phenotypes or from biology, the predicates *male* and *female*

1. are simple concepts, in that they mean nothing other than something being male or female,
2. are not useful for explaining social behaviour, and therefore
3. should not be used to justify behaviour.

Admittedly, I too live in a world populated by physically weak and gentle women and strong, aggressive men. And the fact that each of us knows of strong and aggressive women and gentle and weak men alters nothing about the fact that the concepts of male and female contain many such attributes, or that the career woman is **naturally** unwomanly and the ballet dancer and humanities teacher are unmanly.

But it is not permissible to assume that the qualities *male* or *female* imply anything more than what is determined for good reasons and by the present state of science as the minimal explication of *male* and *female*. Ideally this would result in an understanding of the terms such that no woman who gives up her child for adoption or becomes an engineer and no man who does not regularly drink greater quantities of alcohol or who lacks technical competence, or whatever else is often seen as signs of manliness (or womanliness) would lose the attributes of being male or female for those reasons.

The fact that humans can be separated into male and female specimens is basal and constituted – as it were - by perception does not prevent us from supplying «after the fact» explanations for or at least commentaries about this dichotomy. Our options are:

- to determine it physiologically,
- or by the actual contribution a specimen makes towards reproducing its kind,
- or by its possible contribution to reproduction,
- or by counting chromosomes,
- or gauging levels of testosterone,

and whatever angle we prefer, it remains a dichotomy that is based in the material make up of the world and must be described in physical, physiological, or biological terms.

The hope that gender research, that started in Germany in the 1960s (originating in the women's lib movement), could usher in a profound change of opinion has yet to be fulfilled. On the contrary: The de jure written equal rights for man and woman that have been around quite a while and the politically enforced process of actually securing equality for men and women has led to some improvement, but the goal of equality among men and women in all realms of life still remains an IDEAL, and thus UNREAL – not least because certain feminist approaches establish, emphasize and desire to prove that woman is in principle different.

We do not want to put aside the aspect of specific sexes, but we will not have a profound change of awareness unless we divest the terms *male* and *female* of some of their connotations. Both men and women would profit from just being men and women, with no need to define their manliness or womanliness² via certain behaviours. For instance, in German-speaking regions men define themselves and other men much more by technical competence than in countries characterized by machismo behaviours, where men and women **just are** men and women in a much less complicated way.

Unfortunately, age-old thought habits are difficult to break. They form and determine our behaviours and can be extremely powerful, especially when they take on linguistic shape and fixed standard meanings. Of course, meanings can change, although they can rarely be forced to do so. But it would be worth a try to restrict the terms *male* and *female* to meaning something biological and physiological.

It is a part of the (not unexpected) results of the unprecedentedly successful brain research of the past years, that the brains of males are built up differently, and function differently than those of females. For example there is something in the corpus callosum, that is the nerve track that connects the two spheres of the brain, which already locates a gender difference here; Also very popular is the indication of the strong lateralisation of the male brain and the dominance of the right hemisphere, whereas in the female brain (how could it be any different) there is not such an established order and things get mixed up a bit. To express it more elegantly: There

² As indicated above in another context, issues of transsexuality are bracketed at this point, as well as cases in which a person has a set of chromosomes making her female, but hormones indicating maleness.

is an intensive inter-hemispheric cooperation in the female brain. And finally the hormones: “All brain performances of women are best at the time of the maximum hormone release!” It does however not mean that they are really optimal³.

And that is fine biological evidence that there exists a real, significant, scientifically proven difference in the cognitive area between males and females. In particular it is evidence with which chauvinists and several feminists can live: On the one hand discrimination can be justified and on the other hand it shows that women can think holistically, have a feeling for the beautiful things - and have a more emotional side. There are however real life examples that may suggest the contrary.

In other words: It is a cheap naturalistic explanation - and naturalistic explanations are gladly taken. This already made Aristotle's demonstration of the cognitive inferiority (with other authors: "cognitive difference") of the woman so strong, that we can fall back on a physical foundation.

So Aristotle was evidently one of the initiators of the conception still stuck in some heads, that women are a sort of an incomplete man, hence incomplete humans: “A female is like a crippled male” or “womanhood is an inability/failure” , a view that is occasionally masked up by the fact that men and women are viewed as entities of an instance which compliments itself. And also for this conception Aristotle takes responsibility - for the Occident - : “Femininity is only fabric - masculinity is form”. And finally: “The human has the most brain mass in relation to his body size and among humans, men have more brain mass than women... The head bone contains the most tubes, in men even more than in women, for the same reason, that the better the space is ventilated, the more brain mass it contains.” In this wording a form of valuation is revealed. The sentence does not say that there exists only a feminine fabric and a masculine form, a forming principle. The wording is thus not purely descriptive but also says that latter is superior.

Independent from Aristoteles's preliminary work, the data base is far too small as to inflate the results of brain research into general law. On the other hand (scientific) formation of theories is a construct and is as such extremely dictated by all sorts of

³ Vgl. C. Ciarelli et al.: in *Brain and Cognition* 11 (1989) S. 18-36

interests, whereby among other things mere knowledge interests play the least significant roll.

Conclusion:

As there exist no good reasons for the assumption of biological respectively genetically caused differences in regard to the cognitive features of men and women⁴, there also exists none in reference to the upbringing or rather the education insofar that latter especially refers to the higher education. In contrast it would be counter productive to offer young students gender specific courses. Coeducation is the better route, especially since neither mathematics, sciences, humanities, social sciences, except in a grammatical sense, have a gender. The issue that needs solving is the admission that principally in all sciences and cum grano salis, in all areas of life, men and women have the same (to be supported) skills - and therefore also, amongst other things, make the same mistakes! The following applies, as already mentioned above, **ATTRIBUTIONS such as how technical and technological developments of female and male majorities are perceived, how they are handled or should be and to what extent the life of the respective group is influenced by it. But because we are “only” dealing with attributions and not with laws of nature, these are modifiable, they are to be adapted to the new social circumstances - even if this, as we have seen, concerning this matter, will be a long process...**

Appendix

Almost pure empiricism – or: From the height of theory to the depth of empiricism, but also theory-dependent

Remember: Naturally, there is a difference between men and women. But there is no masculine or feminine technology and no genuinely masculine or feminine approach to technology.

And although in the history of humanity technology and science arose at about the same time, for a long time technology was considered a “subordinate discipline” and

⁴ Here is a comment owed to the spirit of the time: in German-speaking areas there is presently a hype surrounding possible other genders in a variety of forms, summarised in the category “diverse” and in this context partially abstruse demands, for instance, extra toilets. But seriously: also here human’s organs of perception should be referred back to:

science cultivated, in many minds, among other things the notion that since women do not understand science, they do not understand technology, and are of little use to either.

We all know Comte's *Law of Three Stages* that characterizes ways in which we know things about the world. Modeled on that idea of development we can formulate stages in the development of awareness: 1. I-me or we-we relation; 2. I-you or we-you relation; 3. I-he/she/it relation.

And we can observe that mostly men, if not even exclusively men, often exhibit the following behavior: Relapse into the first stage of awareness, in other words, identifying themselves with the "machine" in question. One empirically often confirmed example of such behavior is identifying oneself with one's automobile, saying, for instance, while pointing to one's car, "I'm parked over there."

We also often observe relapses into the I-you relation in other situations: Men seem to enjoy *talking* to machines and technical equipment. These are often complaints and threats, especially when the gadget doesn't work quite right or fast enough. Rarely does one find a machine praised for working well. But what we do observe, and this catapults man to the highest form of awareness, is men describing, *full of pride*, the positive features of their vehicles, computers, and so on, to others. One might say that some sort of self-attribution of the technical and mechanical virtues takes place.

I conclude that in many cases the relation between men and technology is much more intimate than that of women and technology, in other words, it is much more emotional.

Aside of such endearing habits, like identifying oneself with one's vehicle, we often observe that particularly men with little grasp of technology use technical competence as a measure of masculinity.

I am not telling you anything new when I say that a majority of men attribute their masculinity to their technical affinity, while not being capable of operating a washing machine, but rather are experts of the TV's remote control and know not how to use an iron. No conclusion can be drawn here other than the facts themselves. The fact that a person (or woman) can operate or even repair a technical gadget does not change family structures at all aside from the fact that the one or the other, if only temporarily, is in a better position. However, this operation or repair of the gadget in question may result in the ability to negotiate a benefit in a different area.

In a conventional sense, household appliances have made life easier. On the other hand, men and women have sacrificed their control of power to computer supported systems and have retained only small residues. Nevertheless, if there happens to be a sustained electrical power outage, some control of power could be regained, if we can manage to remember the old techniques. One way or the other, this form of power transfer to IT does not change anything about the interpersonal power games within the domestic sphere.

Hans Lenk said in series of lectures years ago, that the invention of the washing machine did more for women's liberation than all theory and politics.

There might be some truth to it. Household appliances incontrovertibly lighten the burden of housework, as anyone knows who has ever washed bed linen in a tub and wrung it out by hand. But the washing machine, no doubt, also contributed to the isolation of the homemaker. Nowadays, of course, in industrial nations we rarely find a specimen of the classical housewife. But where I come from, until the 1960s it was still quite common for three or more women to meet regularly at a public laundering place where they helped one another with this tedious chore while discussing matters of greater or lesser public and personal interest.

My preliminary conclusion is that the Y chromosome has no "technology code," as it has often been claimed, that would make it "natural" for men to understand technology more easily, or conversely, that female preoccupation with technology is behaviour inappropriate for the species.

A kind of linguistic turn: We know from Wittgenstein that "the aspects of things that are most important for us are hidden because of their simplicity and familiarity. (One is unable to notice something – because it is always before one's eyes.)"⁵

Wittgenstein saw social facts as being the fundamental phenomenon of the use of language, an element that could not be further broken down. But taking social placement as an irreducible foundation leads us – in this as well as in other contexts –

⁵ Wittgenstein, *Philosophical Investigations*, 127

to precisely the same dilemma we have when we assume that the grounds for something are “given by nature.”

Now, we do see that more men than women have technical occupations and that more inventions and discoveries in technical fields are made by men, and that men – and along with them – the masculine grammatical forms – enjoy greater social prestige... but Wittgenstein also said that “if everything can be made out to accord with a rule, then it can also be made out to conflict with it.”⁶

And so, finally, for better or for worse, we can say that whatever relationship people have to technology depends on many different factors, from their individual to their collective experiences and memories, their age, and their life forms, but certainly not on their sex. Technical innovations and developments are collective efforts and the distribution of the sexes within that collective guarantees neither success nor failure.

Thus I close with an assumption, the first part of which is a truism: Great social changes (for the better and for the worse) followed from industrialization – and these changes were relevant for both women and (their) men. It is true that the twentieth century’s developments in household technology made and continue to make the lives of women easier. Some men may regret it, but it enables more women to enter masculine domains...

References

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⁶ Wittgenstein, Philosophical Investigations, 201: This was our paradox: no course of action could be determined by a rule, because every course of action can be made out to accord with the rule: the answer was ...”